



# FPGA Clock Divider Resource Usage

## Summary

This quick reference provides detailed information about resource usage of all pre-synthesized Clock Divider cores.

Core Reference  
CR0127 (v1.11) December 19, 2008

## Clock Divider

The available Clock Divider cores are listed as follows:

|                           |                             |                           |                             |
|---------------------------|-----------------------------|---------------------------|-----------------------------|
| <a href="#">CDIV2</a>     | <a href="#">CDIV2DC50</a>   | <a href="#">CDIV3</a>     | <a href="#">CDIV4</a>       |
| <a href="#">CDIV4DC50</a> | <a href="#">CDIV5</a>       | <a href="#">CDIV6</a>     | <a href="#">CDIV6DC50</a>   |
| <a href="#">CDIV7</a>     | <a href="#">CDIV8</a>       | <a href="#">CDIV8DC50</a> | <a href="#">CDIV9</a>       |
| <a href="#">CDIV10</a>    | <a href="#">CDIV10DC50</a>  | <a href="#">CDIV12</a>    | <a href="#">CDIV12DC50</a>  |
| <a href="#">CDIV16</a>    | <a href="#">CDIV16DC50</a>  | <a href="#">CDIV20</a>    | <a href="#">CDIV20DC50</a>  |
| <a href="#">CDIV24</a>    | <a href="#">CDIV24DC50</a>  | <a href="#">CDIV32</a>    | <a href="#">CDIV32DC50</a>  |
| <a href="#">CDIV64</a>    | <a href="#">CDIV64DC50</a>  | <a href="#">CDIV128</a>   | <a href="#">CDIV128DC50</a> |
| <a href="#">CDIV256</a>   | <a href="#">CDIV256DC50</a> | <a href="#">CDIVN_8</a>   | <a href="#">CDIVN_16</a>    |
| <a href="#">CDIVN_32</a>  |                             |                           |                             |

## CDIV2

## Clock Divider by 2

| Device Family   | Macrocells | Logic Cells/Elements | 4-Input LUT | Registers | Block RAM (16K-Bit) | Block RAM (4K-Bit) | Block RAM (8Kx18) | Block RAM (256x9) | Block Multipliers | Total PLLs | Total DLLs | D/GCLK | DCMs |
|-----------------|------------|----------------------|-------------|-----------|---------------------|--------------------|-------------------|-------------------|-------------------|------------|------------|--------|------|
| Arriagx         |            |                      | 1           | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone         |            | 1                    |             | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone2        |            | 1                    |             | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone3        |            | 1                    | 1           | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix         |            | 1                    |             | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix2        |            | 1                    |             | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix3        |            |                      | 1           | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| StratixGX       |            | 1                    |             | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix2GX      |            |                      | 1           | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Max2            |            | 1                    |             | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Max3000a        | 1          | 1                    |             | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000b        | 1          | 1                    |             | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000ae       | 1          | 1                    |             | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000s        | 1          | 1                    |             | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2        |            | 2                    |             | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2E       |            | 2                    |             | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3        |            | 2                    |             | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3A       |            | 3                    | 1           | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3ADSP    |            | 3                    | 1           | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3AN      |            | 3                    | 1           | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3E       |            | 3                    | 1           | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3L       |            | 3                    | 1           | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex          |            | 2                    |             | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2         |            | 2                    |             | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2p        |            | 2                    |             | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| VirtexE         |            | 2                    |             | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex4         |            | 3                    | 1           | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex5         |            | 2                    | 1           | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunner2     | 3          |                      |             | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunnerXpla3 | 3          |                      |             | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500          | 3          |                      |             | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XL        | 3          |                      |             | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XV        | 3          |                      |             | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsicPlus     |            | 4                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3        |            | 2                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3E       |            | 2                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| Fusion          |            | 2                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| EC              |            | 2                    | 1           | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP             |            | 2                    | 1           | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2            |            | 2                    | 1           | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2M           |            | 2                    | 1           | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| SC              |            | 2                    | 1           | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| MACHXO          |            | 2                    | 1           |           |                     |                    |                   |                   |                   |            |            |        |      |
| XP              |            | 2                    | 1           | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| XP2             |            | 2                    | 1           | 1         |                     |                    |                   |                   |                   |            |            |        |      |

**CDIV2DC50****Clock Divider by 2 with 50% Duty Cycle Output**

| Device Family   | Macrocells | Logic Cells/Elements | 4-Input LUT | Registers | Block RAM (16K-Bit) | Block RAM (4K-Bit) | Block RAM (8Kx18) | Block RAM (256x9) | Block Multipliers | Total PLLs | Total DLLs | D/GCLK | DCMs |
|-----------------|------------|----------------------|-------------|-----------|---------------------|--------------------|-------------------|-------------------|-------------------|------------|------------|--------|------|
| Arriagx         |            |                      | 1           | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone         |            | 1                    |             | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone2        |            | 1                    |             | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone3        |            | 1                    | 1           | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix         |            | 1                    |             | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix2        |            | 1                    |             | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix3        |            |                      | 1           | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| StratixGX       |            | 1                    |             | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix2GX      |            |                      | 1           | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Max2            |            | 1                    |             | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Max3000a        | 1          | 1                    |             | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000b        | 1          | 1                    |             | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000ae       | 1          | 1                    |             | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000s        | 1          | 1                    |             | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2        |            | 2                    |             | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2E       |            | 2                    |             | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3        |            | 2                    |             | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3A       |            | 3                    | 1           | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3ADSP    |            | 3                    | 1           | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3AN      |            | 3                    | 1           | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3E       |            | 3                    | 1           | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3L       |            | 3                    | 1           | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex          |            | 2                    |             | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2         |            | 2                    |             | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2p        |            | 2                    |             | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| VirtexE         |            | 2                    |             | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex4         |            | 3                    | 1           | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex5         |            | 2                    | 1           | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunner2     | 1          |                      |             | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunnerXpla3 | 1          |                      |             | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500          | 1          |                      |             | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XL        | 1          |                      |             | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XV        | 1          |                      |             | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsicPlus     |            | 1                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3        |            | 2                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3E       |            | 2                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| Fusion          |            | 2                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| EC              |            | 2                    | 1           | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP             |            | 2                    | 1           | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2            |            | 2                    | 1           | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2M           |            | 2                    | 1           | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| SC              |            | 2                    | 1           | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| MACHXO          |            | 2                    | 1           |           |                     |                    |                   |                   |                   |            |            |        |      |
| XP              |            | 2                    | 1           | 1         |                     |                    |                   |                   |                   |            |            |        |      |
| XP2             |            | 2                    | 1           | 1         |                     |                    |                   |                   |                   |            |            |        |      |

## CDIV3

## Clock Divider by 3

| Device Family   | Macrocells | Logic Cells/Elements | 4-Input LUT | Registers | Block RAM (16K-Bit) | Block RAM (4K-Bit) | Block RAM (8Kx18) | Block RAM (256x9) | Block Multipliers | Total PLLs | Total DLLs | D/GCLK | DCMs |
|-----------------|------------|----------------------|-------------|-----------|---------------------|--------------------|-------------------|-------------------|-------------------|------------|------------|--------|------|
| Arriagx         |            |                      | 1           | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone         |            | 2                    | 1           | 2         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Cyclone2        |            | 1                    | 1           | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone3        |            | 2                    | 1           | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix         |            | 2                    | 1           | 2         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2        |            | 1                    | 1           | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix3        |            |                      | 1           | 2         |                     |                    |                   |                   |                   |            |            | 1      |      |
| StratixGX       |            | 2                    | 1           | 2         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2GX      |            |                      | 1           | 2         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max2            |            | 2                    | 1           | 2         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max3000a        | 2          | 2                    |             | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000b        | 2          | 2                    |             | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000ae       | 2          | 2                    |             | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000s        | 2          | 2                    |             | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2        |            | 4                    | 1           | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2E       |            | 4                    | 1           | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3        |            | 4                    | 1           | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3A       |            | 6                    | 3           | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3ADSP    |            | 6                    | 3           | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3AN      |            | 6                    | 3           | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3E       |            | 6                    | 3           | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3L       |            | 6                    | 3           | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex          |            | 4                    | 1           | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2         |            | 4                    | 1           | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2p        |            | 4                    | 1           | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| VirtexE         |            | 4                    | 1           | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex4         |            | 6                    | 3           | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex5         |            | 4                    | 2           | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunner2     | 2          |                      |             | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunnerXpla3 | 2          |                      |             | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500          | 2          |                      |             | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XL        | 2          |                      |             | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XV        | 2          |                      |             | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsicPlus     |            | 3                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3        |            | 3                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3E       |            | 3                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| Fusion          |            | 3                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| EC              |            | 4                    | 1           | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP             |            | 4                    | 1           | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2            |            | 4                    | 1           | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2M           |            | 4                    | 1           | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| SC              |            | 4                    | 1           | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| MACHXO          |            | 4                    | 1           |           |                     |                    |                   |                   |                   |            |            |        |      |
| XP              |            | 4                    | 1           | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| XP2             |            | 4                    | 1           | 2         |                     |                    |                   |                   |                   |            |            |        |      |

## CDIV4

## Clock Divider by 4

| Device Family   | Macrocells | Logic Cells/Elements | 4-Input LUT | Registers | Block RAM (16K-Bit) | Block RAM (4K-Bit) | Block RAM (8Kx18) | Block RAM (256x9) | Block Multipliers | Total PLLs | Total DLLs | D/GCLK | DCMs |
|-----------------|------------|----------------------|-------------|-----------|---------------------|--------------------|-------------------|-------------------|-------------------|------------|------------|--------|------|
| Arriagx         |            |                      | 3           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone         |            | 3                    | 2           | 3         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Cyclone2        |            | 3                    | 2           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone3        |            | 3                    | 3           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix         |            | 3                    | 2           | 3         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2        |            | 3                    | 2           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix3        |            |                      | 3           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| StratixGX       |            | 3                    | 2           | 3         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2GX      |            |                      | 3           | 3         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max2            |            | 3                    | 2           | 3         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max3000a        | 3          | 3                    |             | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000b        | 3          | 3                    |             | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000ae       | 3          | 3                    |             | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000s        | 3          | 3                    |             | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2        |            | 3                    | 2           | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2E       |            | 3                    | 2           | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3        |            | 3                    | 2           | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3A       |            | 4                    | 3           | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3ADSP    |            | 4                    | 4           | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3AN      |            | 4                    | 3           | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3E       |            | 4                    | 3           | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3L       |            | 4                    | 3           | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex          |            | 3                    | 2           | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2         |            | 3                    | 2           | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2p        |            | 3                    | 2           | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| VirtexE         |            | 3                    | 2           | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex4         |            | 7                    | 4           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex5         |            | 5                    | 1           | 2         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunner2     | 3          |                      |             | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunnerXpla3 | 3          |                      |             | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500          | 3          |                      |             | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XL        | 3          |                      |             | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XV        | 3          |                      |             | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsicPlus     |            | 5                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3        |            | 6                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3E       |            | 6                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| Fusion          |            | 5                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| EC              |            | 4                    | 3           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP             |            | 4                    | 3           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2            |            | 4                    | 3           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2M           |            | 4                    | 3           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| SC              |            | 4                    | 3           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| MACHXO          |            | 4                    | 3           |           |                     |                    |                   |                   |                   |            |            |        |      |
| XP              |            | 4                    | 3           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| XP2             |            | 4                    | 3           | 3         |                     |                    |                   |                   |                   |            |            |        |      |

## CDIV4DC50

## Clock Divider by 4 with 50% Duty Cycle Output

| Device Family   | Macrocells | Logic Cells/Elements | 4-Input LUT | Registers | Block RAM (16K-Bit) | Block RAM (4K-Bit) | Block RAM (8Kx18) | Block RAM (256x9) | Block Multipliers | Total PLLs | Total DLLs | D/GCLK | DCMs |
|-----------------|------------|----------------------|-------------|-----------|---------------------|--------------------|-------------------|-------------------|-------------------|------------|------------|--------|------|
| Arriagx         |            |                      | 3           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone         |            | 3                    | 2           | 3         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Cyclone2        |            | 3                    | 2           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone3        |            | 3                    | 3           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix         |            | 3                    | 2           | 3         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2        |            | 3                    | 2           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix3        |            |                      | 3           | 3         |                     |                    |                   |                   |                   |            |            | 1      |      |
| StratixGX       |            | 3                    | 2           | 3         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2GX      |            |                      | 3           | 3         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max2            |            | 3                    | 2           | 3         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max3000a        | 3          | 3                    |             | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000b        | 3          | 3                    |             | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000ae       | 3          | 3                    |             | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000s        | 3          | 3                    |             | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2        |            | 6                    |             | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2E       |            | 6                    |             | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3        |            | 6                    | 1           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3A       |            | 9                    | 4           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3ADSP    |            | 9                    | 4           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3AN      |            | 9                    | 4           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3E       |            | 9                    | 4           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3L       |            | 9                    | 4           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex          |            | 6                    |             | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2         |            | 6                    | 1           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2p        |            | 6                    | 1           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| VirtexE         |            | 6                    |             | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex4         |            | 9                    | 4           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex5         |            | 4                    | 3           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunner2     | 3          |                      |             | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunnerXpla3 | 3          |                      |             | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500          | 3          |                      |             | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XL        | 3          |                      |             | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XV        | 3          |                      |             | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsicPlus     |            | 5                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3        |            | 6                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3E       |            | 6                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| Fusion          |            | 6                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| EC              |            | 4                    | 3           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP             |            | 4                    | 3           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2            |            | 6                    | 2           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2M           |            | 6                    | 2           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| SC              |            | 6                    | 2           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| MACHXO          |            | 4                    | 3           |           |                     |                    |                   |                   |                   |            |            |        |      |
| XP              |            | 4                    | 3           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| XP2             |            | 6                    | 2           | 3         |                     |                    |                   |                   |                   |            |            |        |      |

## CDIV5

## Clock Divider by 5

| Device Family   | Macrocells | Logic Cells/Elements | 4-Input LUT | Registers | Block RAM (16K-Bit) | Block RAM (4K-Bit) | Block RAM (8Kx18) | Block RAM (256x9) | Block Multipliers | Total PLLs | Total DLLs | D/GCLK | DCMs |
|-----------------|------------|----------------------|-------------|-----------|---------------------|--------------------|-------------------|-------------------|-------------------|------------|------------|--------|------|
| Arriagx         |            |                      | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone         |            | 4                    | 4           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Cyclone2        |            | 4                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone3        |            | 4                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix         |            | 4                    | 4           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2        |            | 4                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix3        |            |                      | 4           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| StratixGX       |            | 4                    | 4           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2GX      |            |                      | 4           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max2            |            | 4                    | 4           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max3000a        | 4          | 4                    |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000b        | 4          | 4                    |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000ae       | 4          | 4                    |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000s        | 4          | 4                    |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2        |            | 7                    | 5           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2E       |            | 7                    | 5           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3        |            | 5                    | 5           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3A       |            | 15                   | 10          | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3ADSP    |            | 12                   | 10          | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3AN      |            | 15                   | 10          | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3E       |            | 7                    | 7           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3L       |            | 9                    | 7           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex          |            | 7                    | 5           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2         |            | 5                    | 5           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2p        |            | 5                    | 5           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| VirtexE         |            | 7                    | 5           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex4         |            | 10                   | 8           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex5         |            | 5                    | 1           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunner2     | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunnerXpla3 | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500          | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XL        | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XV        | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsicPlus     |            | 11                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3        |            | 8                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3E       |            | 8                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| Fusion          |            | 7                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| EC              |            | 6                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP             |            | 6                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2            |            | 8                    | 5           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2M           |            | 8                    | 5           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| SC              |            | 8                    | 5           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| MACHXO          |            | 6                    | 4           |           |                     |                    |                   |                   |                   |            |            |        |      |
| XP              |            | 6                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| XP2             |            | 8                    | 5           | 4         |                     |                    |                   |                   |                   |            |            |        |      |

## CDIV6

## Clock Divider by 6

| Device Family   | Macrocells | Logic Cells/Elements | 4-Input LUT | Registers | Block RAM (16K-Bit) | Block RAM (4K-Bit) | Block RAM (8Kx18) | Block RAM (256x9) | Block Multipliers | Total PLLs | Total DLLs | D/GCLK | DCMs |
|-----------------|------------|----------------------|-------------|-----------|---------------------|--------------------|-------------------|-------------------|-------------------|------------|------------|--------|------|
| Arriagx         |            |                      | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone         |            | 4                    | 3           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Cyclone2        |            | 4                    | 3           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone3        |            | 4                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix         |            | 4                    | 3           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2        |            | 4                    | 3           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix3        |            |                      | 4           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| StratixGX       |            | 4                    | 3           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2GX      |            |                      | 4           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max2            |            | 4                    | 3           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max3000a        | 4          | 4                    |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000b        | 4          | 4                    |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000ae       | 4          | 4                    |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000s        | 4          | 4                    |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2        |            | 7                    | 5           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2E       |            | 7                    | 5           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3        |            | 7                    | 5           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3A       |            | 12                   | 8           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3ADSP    |            | 12                   | 8           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3AN      |            | 12                   | 8           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3E       |            | 9                    | 7           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3L       |            | 9                    | 7           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex          |            | 7                    | 5           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2         |            | 7                    | 5           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2p        |            | 7                    | 5           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| VirtexE         |            | 7                    | 5           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex4         |            | 12                   | 8           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex5         |            | 5                    | 1           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunner2     | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunnerXpla3 | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500          | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XL        | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XV        | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsicPlus     |            | 9                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3        |            | 8                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3E       |            | 8                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| Fusion          |            | 7                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| EC              |            | 6                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP             |            | 6                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2            |            | 8                    | 5           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2M           |            | 8                    | 5           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| SC              |            | 8                    | 5           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| MACHXO          |            | 6                    | 4           |           |                     |                    |                   |                   |                   |            |            |        |      |
| XP              |            | 6                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| XP2             |            | 8                    | 5           | 4         |                     |                    |                   |                   |                   |            |            |        |      |



## CDIV6DC50

## Clock Divider by 6 with 50% Duty Cycle Output

| Device Family   | Macrocells | Logic Cells/Elements | 4-Input LUT | Registers | Block RAM (16K-Bit) | Block RAM (4K-Bit) | Block RAM (8Kx18) | Block RAM (256x9) | Block Multipliers | Total PLLs | Total DLLs | D/GCLK | DCMs |
|-----------------|------------|----------------------|-------------|-----------|---------------------|--------------------|-------------------|-------------------|-------------------|------------|------------|--------|------|
| Arriagx         |            |                      | 3           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone         |            | 5                    | 5           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Cyclone2        |            | 4                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone3        |            | 3                    | 3           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix         |            | 5                    | 5           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2        |            | 3                    | 3           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix3        |            |                      | 3           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| StratixGX       |            | 3                    | 3           | 3         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2GX      |            |                      | 3           | 3         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max2            |            | 3                    | 3           | 3         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max3000a        | 4          | 4                    |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000b        | 4          | 4                    |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000ae       | 4          | 4                    |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000s        | 4          | 4                    |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2        |            | 8                    | 3           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2E       |            | 8                    | 3           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3        |            | 8                    | 3           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3A       |            | 9                    | 6           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3ADSP    |            | 10                   | 8           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3AN      |            | 9                    | 6           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3E       |            | 12                   | 7           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3L       |            | 9                    | 5           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex          |            | 8                    | 3           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2         |            | 8                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2p        |            | 8                    | 3           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| VirtexE         |            | 8                    | 3           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex4         |            | 12                   | 7           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex5         |            | 4                    | 3           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunner2     | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunnerXpla3 | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500          | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XL        | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XV        | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsicPlus     |            | 11                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3        |            | 9                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3E       |            | 9                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| Fusion          |            | 9                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| EC              |            | 6                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP             |            | 6                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2            |            | 6                    | 3           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2M           |            | 6                    | 3           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| SC              |            | 6                    | 3           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| MACHXO          |            | 6                    | 5           |           |                     |                    |                   |                   |                   |            |            |        |      |
| XP              |            | 6                    | 5           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| XP2             |            | 6                    | 3           | 3         |                     |                    |                   |                   |                   |            |            |        |      |

## CDIV7

## Clock Divider by 7

| Device Family   | Macrocells | Logic Cells/Elements | 4-Input LUT | Registers | Block RAM (16K-Bit) | Block RAM (4K-Bit) | Block RAM (8Kx18) | Block RAM (256x9) | Block Multipliers | Total PLLs | Total DLLs | D/GCLK | DCMs |
|-----------------|------------|----------------------|-------------|-----------|---------------------|--------------------|-------------------|-------------------|-------------------|------------|------------|--------|------|
| Arriagx         |            |                      | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone         |            | 4                    | 4           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Cyclone2        |            | 4                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone3        |            | 4                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix         |            | 4                    | 4           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2        |            | 4                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix3        |            |                      | 4           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| StratixGX       |            | 4                    | 4           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2GX      |            |                      | 4           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max2            |            | 4                    | 4           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max3000a        | 4          | 4                    |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000b        | 4          | 4                    |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000ae       | 4          | 4                    |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000s        | 4          | 4                    |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2        |            | 7                    | 4           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2E       |            | 7                    | 4           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3        |            | 7                    | 5           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3A       |            | 7                    | 7           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3ADSP    |            | 7                    | 7           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3AN      |            | 7                    | 7           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3E       |            | 9                    | 7           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3L       |            | 7                    | 7           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex          |            | 7                    | 4           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2         |            | 7                    | 5           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2p        |            | 7                    | 5           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| VirtexE         |            | 7                    | 4           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex4         |            | 10                   | 8           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex5         |            | 5                    | 1           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunner2     | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunnerXpla3 | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500          | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XL        | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XV        | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsicPlus     |            | 10                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3        |            | 8                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3E       |            | 8                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| Fusion          |            | 7                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| EC              |            | 6                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP             |            | 6                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2            |            | 6                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2M           |            | 6                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| SC              |            | 6                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| MACHXO          |            | 6                    | 4           |           |                     |                    |                   |                   |                   |            |            |        |      |
| XP              |            | 6                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| XP2             |            | 6                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |

## CDIV8

## Clock Divider by 8

| Device Family   | Macrocells | Logic Cells/Elements | 4-Input LUT | Registers | Block RAM (16K-Bit) | Block RAM (4K-Bit) | Block RAM (8Kx18) | Block RAM (256x9) | Block Multipliers | Total PLLs | Total DLLs | D/GCLK | DCMs |
|-----------------|------------|----------------------|-------------|-----------|---------------------|--------------------|-------------------|-------------------|-------------------|------------|------------|--------|------|
| Arriagx         |            |                      | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone         |            | 4                    | 4           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Cyclone2        |            | 4                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone3        |            | 4                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix         |            | 4                    | 4           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2        |            | 4                    | 3           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix3        |            |                      | 4           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| StratixGX       |            | 4                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix2GX      |            |                      | 4           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max2            |            | 4                    | 3           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max3000a        | 4          | 4                    |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000b        | 4          | 4                    |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000ae       | 4          | 4                    |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000s        | 4          | 4                    |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2        |            | 5                    | 4           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2E       |            | 5                    | 4           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3        |            | 5                    | 4           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3A       |            | 7                    | 6           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3ADSP    |            | 7                    | 6           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3AN      |            | 7                    | 6           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3E       |            | 7                    | 6           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3L       |            | 7                    | 6           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex          |            | 5                    | 4           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2         |            | 5                    | 4           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2p        |            | 5                    | 4           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| VirtexE         |            | 5                    | 4           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex4         |            | 10                   | 7           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex5         |            | 5                    | 1           | 3         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunner2     | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunnerXpla3 | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500          | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XL        | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XV        | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsicPlus     |            | 8                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3        |            | 8                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3E       |            | 8                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| Fusion          |            | 7                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| EC              |            | 6                    | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP             |            | 6                    | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2            |            | 6                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2M           |            | 6                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| SC              |            | 6                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| MACHXO          |            | 6                    | 4           |           |                     |                    |                   |                   |                   |            |            |        |      |
| XP              |            | 6                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| XP2             |            | 6                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |

## CDIV8DC50

## Clock Divider by 8 with 50% Duty Cycle Output

| Device Family   | Macrocells | Logic Cells/Elements | 4-Input LUT | Registers | Block RAM (16K-Bit) | Block RAM (4K-Bit) | Block RAM (8Kx18) | Block RAM (256x9) | Block Multipliers | Total PLLs | Total DLLs | D/GCLK | DCMs |
|-----------------|------------|----------------------|-------------|-----------|---------------------|--------------------|-------------------|-------------------|-------------------|------------|------------|--------|------|
| Arriagx         |            |                      | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone         |            | 4                    | 3           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Cyclone2        |            | 4                    | 3           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone3        |            | 4                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix         |            | 4                    | 3           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2        |            | 4                    | 3           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix3        |            |                      | 4           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| StratixGX       |            | 4                    | 3           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2GX      |            |                      | 4           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max2            |            | 4                    | 3           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max3000a        | 4          | 4                    |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000b        | 4          | 4                    |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000ae       | 4          | 4                    |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000s        | 4          | 4                    |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2        |            | 6                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2E       |            | 6                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3        |            | 6                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3A       |            | 16                   | 10          | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3ADSP    |            | 13                   | 8           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3AN      |            | 16                   | 10          | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3E       |            | 10                   | 8           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3L       |            | 10                   | 8           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex          |            | 6                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2         |            | 6                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2p        |            | 6                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| VirtexE         |            | 6                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex4         |            | 10                   | 8           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex5         |            | 4                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunner2     | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunnerXpla3 | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500          | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XL        | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XV        | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsicPlus     |            | 11                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3        |            | 9                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3E       |            | 9                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| Fusion          |            | 9                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| EC              |            | 6                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP             |            | 6                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2            |            | 6                    | 5           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2M           |            | 6                    | 5           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| SC              |            | 6                    | 5           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| MACHXO          |            | 6                    | 5           |           |                     |                    |                   |                   |                   |            |            |        |      |
| XP              |            | 6                    | 5           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| XP2             |            | 6                    | 5           | 4         |                     |                    |                   |                   |                   |            |            |        |      |

## CDIV9

## Clock Divider by 9

| Device Family   | Macrocells | Logic Cells/Elements | 4-Input LUT | Registers | Block RAM (16K-Bit) | Block RAM (4K-Bit) | Block RAM (8Kx18) | Block RAM (256x9) | Block Multipliers | Total PLLs | Total DLLs | D/GCLK | DCMs |
|-----------------|------------|----------------------|-------------|-----------|---------------------|--------------------|-------------------|-------------------|-------------------|------------|------------|--------|------|
| Arriagx         |            |                      | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone         |            | 5                    | 5           | 5         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Cyclone2        |            | 5                    | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone3        |            | 5                    | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix         |            | 5                    | 5           | 5         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2        |            | 5                    | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix3        |            |                      | 5           | 6         |                     |                    |                   |                   |                   |            |            | 1      |      |
| StratixGX       |            | 5                    | 5           | 5         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2GX      |            |                      | 5           | 5         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max2            |            | 5                    | 5           | 5         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max3000a        | 5          | 5                    |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000b        | 5          | 5                    |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000ae       | 5          | 5                    |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000s        | 5          | 5                    |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2        |            | 7                    | 7           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2E       |            | 7                    | 7           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3        |            | 7                    | 6           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3A       |            | 10                   | 9           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3ADSP    |            | 13                   | 12          | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3AN      |            | 10                   | 9           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3E       |            | 10                   | 9           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3L       |            | 10                   | 9           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex          |            | 7                    | 7           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2         |            | 7                    | 6           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2p        |            | 7                    | 6           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| VirtexE         |            | 7                    | 7           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex4         |            | 13                   | 10          | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex5         |            | 5                    | 1           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunner2     | 5          |                      |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunnerXpla3 | 5          |                      |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500          | 5          |                      |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XL        | 5          |                      |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XV        | 5          |                      |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsicPlus     |            | 15                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3        |            | 14                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3E       |            | 13                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| Fusion          |            | 12                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| EC              |            | 6                    | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP             |            | 6                    | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2            |            | 8                    | 6           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2M           |            | 8                    | 6           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| SC              |            | 10                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| MACHXO          |            | 6                    | 5           |           |                     |                    |                   |                   |                   |            |            |        |      |
| XP              |            | 6                    | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| XP2             |            | 8                    | 6           | 5         |                     |                    |                   |                   |                   |            |            |        |      |

## CDIV10

## Clock Divider by 10

| Device Family   | Macrocells | Logic Cells/Elements | 4-Input LUT | Registers | Block RAM (16K-Bit) | Block RAM (4K-Bit) | Block RAM (8Kx18) | Block RAM (256x9) | Block Multipliers | Total PLLs | Total DLLs | D/GCLK | DCMs |
|-----------------|------------|----------------------|-------------|-----------|---------------------|--------------------|-------------------|-------------------|-------------------|------------|------------|--------|------|
| Arriagx         |            |                      | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone         |            | 5                    | 4           | 5         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Cyclone2        |            | 5                    | 4           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone3        |            | 5                    | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix         |            | 5                    | 4           | 5         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2        |            | 5                    | 4           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix3        |            |                      | 5           | 6         |                     |                    |                   |                   |                   |            |            | 1      |      |
| StratixGX       |            | 5                    | 4           | 5         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2GX      |            |                      | 5           | 5         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max2            |            | 5                    | 4           | 5         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max3000a        | 5          | 5                    |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000b        | 5          | 5                    |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000ae       | 5          | 5                    |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000s        | 5          | 5                    |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2        |            | 9                    | 6           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2E       |            | 9                    | 6           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3        |            | 9                    | 6           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3A       |            | 10                   | 8           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3ADSP    |            | 15                   | 10          | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3AN      |            | 10                   | 8           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3E       |            | 12                   | 9           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3L       |            | 12                   | 9           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex          |            | 9                    | 6           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2         |            | 9                    | 6           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2p        |            | 9                    | 6           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| VirtexE         |            | 9                    | 6           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex4         |            | 13                   | 10          | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex5         |            | 5                    | 1           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunner2     | 5          |                      |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunnerXpla3 | 5          |                      |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500          | 5          |                      |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XL        | 5          |                      |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XV        | 5          |                      |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsicPlus     |            | 14                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3        |            | 14                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3E       |            | 13                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| Fusion          |            | 12                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| EC              |            | 6                    | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP             |            | 6                    | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2            |            | 8                    | 6           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2M           |            | 8                    | 6           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| SC              |            | 8                    | 6           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| MACHXO          |            | 6                    | 5           |           |                     |                    |                   |                   |                   |            |            |        |      |
| XP              |            | 6                    | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| XP2             |            | 8                    | 6           | 5         |                     |                    |                   |                   |                   |            |            |        |      |

**CDIV10DC50****Clock Divider by 10 with 50% Duty Cycle Output**

| Device Family   | Macrocells | Logic Cells/Elements | 4-Input LUT | Registers | Block RAM (16K-Bit) | Block RAM (4K-Bit) | Block RAM (8Kx18) | Block RAM (256x9) | Block Multipliers | Total PLLs | Total DLLs | D/GCLK | DCMs |
|-----------------|------------|----------------------|-------------|-----------|---------------------|--------------------|-------------------|-------------------|-------------------|------------|------------|--------|------|
| Arria7          |            |                      | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone         |            | 4                    | 4           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Cyclone2        |            | 4                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone3        |            | 4                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix         |            | 4                    | 4           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2        |            | 4                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix3        |            |                      | 4           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| StratixGX       |            | 4                    | 4           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2GX      |            |                      | 4           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max2            |            | 4                    | 4           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max3000a        | 4          | 4                    |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000b        | 4          | 4                    |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000ae       | 4          | 4                    |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000s        | 4          | 4                    |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2        |            | 6                    | 3           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2E       |            | 6                    | 3           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3        |            | 6                    | 3           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3A       |            | 17                   | 14          | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3ADSP    |            | 17                   | 14          | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3AN      |            | 17                   | 14          | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3E       |            | 10                   | 7           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3L       |            | 10                   | 7           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex          |            | 6                    | 3           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2         |            | 6                    | 3           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2p        |            | 6                    | 3           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| VirtexE         |            | 6                    | 3           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex4         |            | 10                   | 7           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex5         |            | 4                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunner2     | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunnerXpla3 | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500          | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XL        | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XV        | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsicPlus     |            | 12                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3        |            | 9                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3E       |            | 9                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| Fusion          |            | 9                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| EC              |            | 6                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP             |            | 6                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2            |            | 6                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2M           |            | 6                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| SC              |            | 6                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| MACHXO          |            | 6                    | 5           |           |                     |                    |                   |                   |                   |            |            |        |      |
| XP              |            | 6                    | 5           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| XP2             |            | 6                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |

## CDIV12

## Clock Divider by 12

| Device Family   | Macrocells | Logic Cells/Elements | 4-Input LUT | Registers | Block RAM (16K-Bit) | Block RAM (4K-Bit) | Block RAM (8Kx18) | Block RAM (256x9) | Block Multipliers | Total PLLs | Total DLLs | D/GCLK | DCMs |
|-----------------|------------|----------------------|-------------|-----------|---------------------|--------------------|-------------------|-------------------|-------------------|------------|------------|--------|------|
| Arriagx         |            |                      | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone         |            | 5                    | 4           | 5         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Cyclone2        |            | 5                    | 4           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone3        |            | 5                    | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix         |            | 5                    | 4           | 5         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2        |            | 5                    | 4           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix3        |            |                      | 5           | 6         |                     |                    |                   |                   |                   |            |            | 1      |      |
| StratixGX       |            | 5                    | 4           | 5         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2GX      |            |                      | 5           | 5         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max2            |            | 5                    | 4           | 5         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max3000a        | 5          | 5                    |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000b        | 5          | 5                    |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000ae       | 5          | 5                    |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000s        | 5          | 5                    |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2        |            | 7                    | 6           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2E       |            | 7                    | 6           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3        |            | 7                    | 6           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3A       |            | 14                   | 11          | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3ADSP    |            | 8                    | 8           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3AN      |            | 14                   | 11          | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3E       |            | 10                   | 9           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3L       |            | 10                   | 9           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex          |            | 7                    | 6           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2         |            | 7                    | 6           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2p        |            | 7                    | 6           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| VirtexE         |            | 7                    | 6           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex4         |            | 13                   | 10          | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex5         |            | 5                    | 1           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunner2     | 5          |                      |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunnerXpla3 | 5          |                      |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500          | 5          |                      |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XL        | 5          |                      |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XV        | 5          |                      |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsicPlus     |            | 13                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3        |            | 13                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3E       |            | 13                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| Fusion          |            | 12                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| EC              |            | 6                    | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP             |            | 6                    | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2            |            | 8                    | 6           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2M           |            | 8                    | 6           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| SC              |            | 8                    | 6           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| MACHXO          |            | 6                    | 5           |           |                     |                    |                   |                   |                   |            |            |        |      |
| XP              |            | 6                    | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| XP2             |            | 8                    | 6           | 5         |                     |                    |                   |                   |                   |            |            |        |      |



**CDIV12DC50****Clock Divider by 12 with 50% Duty Cycle Output**

| Device Family   | Macrocells | Logic Cells/Elements | 4-Input LUT | Registers | Block RAM (16K-Bit) | Block RAM (4K-Bit) | Block RAM (8Kx18) | Block RAM (256x9) | Block Multipliers | Total PLLs | Total DLLs | D/GCLK | DCMs |
|-----------------|------------|----------------------|-------------|-----------|---------------------|--------------------|-------------------|-------------------|-------------------|------------|------------|--------|------|
| Arriagx         |            |                      | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone         |            | 4                    | 3           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Cyclone2        |            | 4                    | 3           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone3        |            | 4                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix         |            | 4                    | 3           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2        |            | 4                    | 3           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix3        |            |                      | 4           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| StratixGX       |            | 4                    | 3           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2GX      |            |                      | 4           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max2            |            | 4                    | 3           | 4         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max3000a        | 4          | 4                    |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000b        | 4          | 4                    |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000ae       | 4          | 4                    |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000s        | 4          | 4                    |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2        |            | 8                    | 3           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2E       |            | 8                    | 3           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3        |            | 10                   | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3A       |            | 17                   | 9           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3ADSP    |            | 17                   | 9           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3AN      |            | 17                   | 9           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3E       |            | 14                   | 8           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3L       |            | 14                   | 8           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex          |            | 8                    | 3           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2         |            | 10                   | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2p        |            | 10                   | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| VirtexE         |            | 8                    | 3           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex4         |            | 14                   | 7           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex5         |            | 4                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunner2     | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunnerXpla3 | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500          | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XL        | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XV        | 4          |                      |             | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsicPlus     |            | 11                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3        |            | 9                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3E       |            | 9                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| Fusion          |            | 9                    |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| EC              |            | 6                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP             |            | 6                    | 4           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2            |            | 6                    | 5           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2M           |            | 6                    | 5           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| SC              |            | 6                    | 5           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| MACHXO          |            | 6                    | 5           |           |                     |                    |                   |                   |                   |            |            |        |      |
| XP              |            | 6                    | 5           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| XP2             |            | 6                    | 5           | 4         |                     |                    |                   |                   |                   |            |            |        |      |

## CDIV16

## Clock Divider by 16

| Device Family   | Macrocells | Logic Cells/Elements | 4-Input LUT | Registers | Block RAM (16K-Bit) | Block RAM (4K-Bit) | Block RAM (8Kx18) | Block RAM (256x9) | Block Multipliers | Total PLLs | Total DLLs | D/GCLK | DCMs |
|-----------------|------------|----------------------|-------------|-----------|---------------------|--------------------|-------------------|-------------------|-------------------|------------|------------|--------|------|
| Arriagx         |            |                      | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone         |            | 5                    | 5           | 5         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Cyclone2        |            | 5                    | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone3        |            | 5                    | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix         |            | 5                    | 5           | 5         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2        |            | 5                    | 4           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix3        |            |                      | 5           | 5         |                     |                    |                   |                   |                   |            |            | 1      |      |
| StratixGX       |            | 5                    | 5           | 5         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2GX      |            |                      | 5           | 5         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max2            |            | 5                    | 4           | 5         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max3000a        | 5          | 5                    |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000b        | 5          | 5                    |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000ae       | 5          | 5                    |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000s        | 5          | 5                    |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2        |            | 5                    | 5           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2E       |            | 5                    | 5           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3        |            | 5                    | 5           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3A       |            | 8                    | 8           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3ADSP    |            | 8                    | 8           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3AN      |            | 8                    | 8           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3E       |            | 8                    | 8           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3L       |            | 8                    | 8           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex          |            | 5                    | 5           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2         |            | 5                    | 5           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2p        |            | 5                    | 5           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| VirtexE         |            | 5                    | 5           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex4         |            | 11                   | 9           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex5         |            | 5                    | 1           | 4         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunner2     | 5          |                      |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunnerXpla3 | 5          |                      |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500          | 5          |                      |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XL        | 5          |                      |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XV        | 5          |                      |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsicPlus     |            | 12                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3        |            | 12                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3E       |            | 12                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| Fusion          |            | 11                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| EC              |            | 6                    | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP             |            | 6                    | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2            |            | 6                    | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2M           |            | 6                    | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| SC              |            | 6                    | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| MACHXO          |            | 6                    | 5           |           |                     |                    |                   |                   |                   |            |            |        |      |
| XP              |            | 6                    | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| XP2             |            | 6                    | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |

**CDIV16DC50****Clock Divider by 16 with 50% Duty Cycle Output**

| Device Family   | Macrocells | Logic Cells/Elements | 4-Input LUT | Registers | Block RAM (16K-Bit) | Block RAM (4K-Bit) | Block RAM (8Kx18) | Block RAM (256x9) | Block Multipliers | Total PLLs | Total DLLs | D/GCLK | DCMs |
|-----------------|------------|----------------------|-------------|-----------|---------------------|--------------------|-------------------|-------------------|-------------------|------------|------------|--------|------|
| Arriagx         |            |                      | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone         |            | 6                    | 5           | 5         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Cyclone2        |            | 6                    | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone3        |            | 6                    | 6           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix         |            | 6                    | 5           | 5         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2        |            | 5                    | 4           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix3        |            |                      | 5           | 6         |                     |                    |                   |                   |                   |            |            | 1      |      |
| StratixGX       |            | 6                    | 5           | 5         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2GX      |            |                      | 5           | 5         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max2            |            | 6                    | 5           | 5         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max3000a        | 5          | 5                    |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000b        | 5          | 5                    |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000ae       | 5          | 5                    |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000s        | 5          | 5                    |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2        |            | 8                    | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2E       |            | 8                    | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3        |            | 8                    | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3A       |            | 20                   | 15          | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3ADSP    |            | 15                   | 12          | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3AN      |            | 20                   | 15          | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3E       |            | 13                   | 10          | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3L       |            | 13                   | 9           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex          |            | 8                    | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2         |            | 8                    | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2p        |            | 8                    | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| VirtexE         |            | 8                    | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex4         |            | 13                   | 10          | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex5         |            | 4                    | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunner2     | 5          |                      |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunnerXpla3 | 5          |                      |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500          | 5          |                      |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XL        | 5          |                      |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XV        | 5          |                      |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsicPlus     |            | 14                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3        |            | 13                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3E       |            | 14                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| Fusion          |            | 13                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| EC              |            | 6                    | 6           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP             |            | 6                    | 6           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2            |            | 8                    | 7           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2M           |            | 8                    | 7           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| SC              |            | 8                    | 6           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| MACHXO          |            | 8                    | 7           |           |                     |                    |                   |                   |                   |            |            |        |      |
| XP              |            | 8                    | 7           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| XP2             |            | 8                    | 7           | 5         |                     |                    |                   |                   |                   |            |            |        |      |

## CDIV20

## Clock Divider by 20

| Device Family   | Macrocells | Logic Cells/Elements | 4-Input LUT | Registers | Block RAM (16K-Bit) | Block RAM (4K-Bit) | Block RAM (8Kx18) | Block RAM (256x9) | Block Multipliers | Total PLLs | Total DLLs | D/GCLK | DCMs |
|-----------------|------------|----------------------|-------------|-----------|---------------------|--------------------|-------------------|-------------------|-------------------|------------|------------|--------|------|
| Arriagx         |            |                      | 6           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone         |            | 10                   | 9           | 6         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Cyclone2        |            | 7                    | 6           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone3        |            | 8                    | 8           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix         |            | 9                    | 8           | 6         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2        |            | 6                    | 5           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix3        |            |                      | 6           | 6         |                     |                    |                   |                   |                   |            |            | 1      |      |
| StratixGX       |            | 9                    | 8           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix2GX      |            |                      | 6           | 6         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max2            |            | 8                    | 7           | 6         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max3000a        | 6          | 6                    |             | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000b        | 6          | 6                    |             | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000ae       | 6          | 6                    |             | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000s        | 6          | 6                    |             | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2        |            | 9                    | 9           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2E       |            | 9                    | 9           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3        |            | 9                    | 9           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3A       |            | 13                   | 10          | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3ADSP    |            | 15                   | 14          | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3AN      |            | 13                   | 10          | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3E       |            | 13                   | 13          | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3L       |            | 13                   | 13          | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex          |            | 9                    | 9           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2         |            | 9                    | 9           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2p        |            | 9                    | 9           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| VirtexE         |            | 9                    | 9           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex4         |            | 16                   | 14          | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex5         |            | 5                    | 1           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunner2     | 6          |                      |             | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunnerXpla3 | 6          |                      |             | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500          | 6          |                      |             | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XL        | 6          |                      |             | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XV        | 6          |                      |             | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsicPlus     |            | 18                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3        |            | 18                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3E       |            | 16                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| Fusion          |            | 15                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| EC              |            | 8                    | 7           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP             |            | 8                    | 7           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2            |            | 10                   | 9           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2M           |            | 10                   | 9           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| SC              |            | 10                   | 9           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| MACHXO          |            | 10                   | 10          |           |                     |                    |                   |                   |                   |            |            |        |      |
| XP              |            | 10                   | 9           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| XP2             |            | 10                   | 9           | 6         |                     |                    |                   |                   |                   |            |            |        |      |

**CDIV20DC50****Clock Divider by 20 with 50% Duty Cycle Output**

| Device Family   | Macrocells | Logic Cells/Elements | 4-Input LUT | Registers | Block RAM (16K-Bit) | Block RAM (4K-Bit) | Block RAM (8Kx18) | Block RAM (256x9) | Block Multipliers | Total PLLs | Total DLLs | D/GCLK | DCMs |
|-----------------|------------|----------------------|-------------|-----------|---------------------|--------------------|-------------------|-------------------|-------------------|------------|------------|--------|------|
| Arriagx         |            |                      | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone         |            | 6                    | 5           | 5         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Cyclone2        |            | 6                    | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone3        |            | 6                    | 6           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix         |            | 6                    | 5           | 5         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2        |            | 5                    | 4           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix3        |            |                      | 5           | 6         |                     |                    |                   |                   |                   |            |            | 1      |      |
| StratixGX       |            | 6                    | 5           | 5         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2GX      |            |                      | 5           | 5         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max2            |            | 6                    | 5           | 5         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max3000a        | 5          | 5                    |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000b        | 5          | 5                    |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000ae       | 5          | 5                    |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000s        | 5          | 5                    |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2        |            | 10                   | 4           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2E       |            | 10                   | 4           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3        |            | 10                   | 4           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3A       |            | 19                   | 16          | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3ADSP    |            | 19                   | 16          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3AN      |            | 19                   | 14          | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3E       |            | 15                   | 9           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3L       |            | 15                   | 9           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex          |            | 10                   | 4           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2         |            | 10                   | 4           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2p        |            | 10                   | 4           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| VirtexE         |            | 10                   | 4           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex4         |            | 15                   | 9           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex5         |            | 4                    | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunner2     | 5          |                      |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunnerXpla3 | 5          |                      |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500          | 5          |                      |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XL        | 5          |                      |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XV        | 5          |                      |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsicPlus     |            | 15                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3        |            | 14                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3E       |            | 15                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| Fusion          |            | 14                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| EC              |            | 6                    | 6           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP             |            | 6                    | 6           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2            |            | 10                   | 6           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2M           |            | 10                   | 6           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| SC              |            | 10                   | 6           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| MACHXO          |            | 8                    | 7           |           |                     |                    |                   |                   |                   |            |            |        |      |
| XP              |            | 8                    | 7           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| XP2             |            | 10                   | 6           | 5         |                     |                    |                   |                   |                   |            |            |        |      |

## CDIV24

## Clock Divider by 24

| Device Family   | Macrocells | Logic Cells/Elements | 4-Input LUT | Registers | Block RAM (16K-Bit) | Block RAM (4K-Bit) | Block RAM (8Kx18) | Block RAM (256x9) | Block Multipliers | Total PLLs | Total DLLs | D/GCLK | DCMs |
|-----------------|------------|----------------------|-------------|-----------|---------------------|--------------------|-------------------|-------------------|-------------------|------------|------------|--------|------|
| Arriagx         |            |                      | 6           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone         |            | 9                    | 8           | 6         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Cyclone2        |            | 7                    | 6           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone3        |            | 8                    | 8           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix         |            | 8                    | 7           | 6         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2        |            | 6                    | 5           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix3        |            |                      | 6           | 6         |                     |                    |                   |                   |                   |            |            | 1      |      |
| StratixGX       |            | 8                    | 7           | 6         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2GX      |            |                      | 6           | 6         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max2            |            | 8                    | 7           | 6         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max3000a        | 6          | 6                    |             | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000b        | 6          | 6                    |             | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000ae       | 6          | 6                    |             | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000s        | 6          | 6                    |             | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2        |            | 11                   | 9           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2E       |            | 11                   | 9           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3        |            | 11                   | 9           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3A       |            | 13                   | 10          | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3ADSP    |            | 15                   | 13          | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3AN      |            | 13                   | 10          | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3E       |            | 15                   | 13          | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3L       |            | 15                   | 13          | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex          |            | 11                   | 9           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2         |            | 11                   | 9           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2p        |            | 11                   | 9           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| VirtexE         |            | 11                   | 9           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex4         |            | 18                   | 14          | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex5         |            | 7                    | 1           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunner2     | 6          |                      |             | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunnerXpla3 | 6          |                      |             | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500          | 6          |                      |             | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XL        | 6          |                      |             | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XV        | 6          |                      |             | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsicPlus     |            | 17                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3        |            | 17                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3E       |            | 15                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| Fusion          |            | 14                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| EC              |            | 8                    | 7           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP             |            | 8                    | 7           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2            |            | 12                   | 9           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2M           |            | 12                   | 9           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| SC              |            | 12                   | 9           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| MACHXO          |            | 10                   | 9           |           |                     |                    |                   |                   |                   |            |            |        |      |
| XP              |            | 10                   | 9           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| XP2             |            | 12                   | 9           | 6         |                     |                    |                   |                   |                   |            |            |        |      |

**CDIV24DC50****Clock Divider by 24 with 50% Duty Cycle Output**

| Device Family   | Macrocells | Logic Cells/Elements | 4-Input LUT | Registers | Block RAM (16K-Bit) | Block RAM (4K-Bit) | Block RAM (8Kx18) | Block RAM (256x9) | Block Multipliers | Total PLLs | Total DLLs | D/GCLK | DCMs |
|-----------------|------------|----------------------|-------------|-----------|---------------------|--------------------|-------------------|-------------------|-------------------|------------|------------|--------|------|
| Arriagx         |            |                      | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone         |            | 6                    | 5           | 5         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Cyclone2        |            | 6                    | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone3        |            | 6                    | 6           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix         |            | 6                    | 5           | 5         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2        |            | 5                    | 4           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix3        |            |                      | 5           | 5         |                     |                    |                   |                   |                   |            |            | 1      |      |
| StratixGX       |            | 6                    | 5           | 5         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2GX      |            |                      | 5           | 5         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max2            |            | 7                    | 6           | 6         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max3000a        | 5          | 5                    |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000b        | 5          | 5                    |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000ae       | 5          | 5                    |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000s        | 5          | 5                    |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2        |            | 6                    | 4           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2E       |            | 6                    | 4           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3        |            | 8                    | 4           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3A       |            | 19                   | 12          | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3ADSP    |            | 19                   | 13          | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3AN      |            | 19                   | 12          | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3E       |            | 13                   | 9           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3L       |            | 13                   | 9           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex          |            | 6                    | 4           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2         |            | 8                    | 4           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2p        |            | 8                    | 4           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| VirtexE         |            | 6                    | 4           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex4         |            | 13                   | 9           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex5         |            | 4                    | 5           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunner2     | 5          |                      |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunnerXpla3 | 5          |                      |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500          | 5          |                      |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XL        | 5          |                      |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XV        | 5          |                      |             | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsicPlus     |            | 15                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3        |            | 14                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3E       |            | 15                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| Fusion          |            | 14                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| EC              |            | 6                    | 6           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP             |            | 6                    | 6           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2            |            | 6                    | 6           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2M           |            | 6                    | 6           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| SC              |            | 6                    | 6           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| MACHXO          |            | 8                    | 7           |           |                     |                    |                   |                   |                   |            |            |        |      |
| XP              |            | 8                    | 7           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| XP2             |            | 6                    | 6           | 5         |                     |                    |                   |                   |                   |            |            |        |      |

## CDIV32

## Clock Divider by 32

| Device Family   | Macrocells | Logic Cells/Elements | 4-Input LUT | Registers | Block RAM (16K-Bit) | Block RAM (4K-Bit) | Block RAM (8Kx18) | Block RAM (256x9) | Block Multipliers | Total PLLs | Total DLLs | D/GCLK | DCMs |
|-----------------|------------|----------------------|-------------|-----------|---------------------|--------------------|-------------------|-------------------|-------------------|------------|------------|--------|------|
| Arriagx         |            |                      | 6           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone         |            | 7                    | 7           | 6         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Cyclone2        |            | 7                    | 7           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone3        |            | 7                    | 7           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix         |            | 7                    | 7           | 6         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2        |            | 6                    | 5           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix3        |            |                      | 6           | 6         |                     |                    |                   |                   |                   |            |            | 1      |      |
| StratixGX       |            | 7                    | 7           | 6         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2GX      |            |                      | 6           | 6         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max2            |            | 8                    | 7           | 6         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max3000a        | 6          | 6                    |             | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000b        | 6          | 6                    |             | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000ae       | 6          | 6                    |             | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000s        | 6          | 6                    |             | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2        |            | 7                    | 7           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2E       |            | 7                    | 7           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3        |            | 9                    | 7           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3A       |            | 11                   | 11          | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3ADSP    |            | 13                   | 12          | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3AN      |            | 11                   | 11          | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3E       |            | 11                   | 11          | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3L       |            | 11                   | 11          | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex          |            | 7                    | 7           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2         |            | 9                    | 7           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2p        |            | 9                    | 7           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| VirtexE         |            | 7                    | 7           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex4         |            | 14                   | 12          | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex5         |            | 9                    | 1           | 5         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunner2     | 6          |                      |             | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunnerXpla3 | 6          |                      |             | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500          | 6          |                      |             | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XL        | 6          |                      |             | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XV        | 6          |                      |             | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsicPlus     |            | 16                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3        |            | 15                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3E       |            | 15                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| Fusion          |            | 14                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| EC              |            | 8                    | 8           | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP             |            | 8                    | 8           | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2            |            | 12                   | 9           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2M           |            | 12                   | 9           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| SC              |            | 8                    | 7           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| MACHXO          |            | 10                   | 9           |           |                     |                    |                   |                   |                   |            |            |        |      |
| XP              |            | 8                    | 8           | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| XP2             |            | 10                   | 8           | 6         |                     |                    |                   |                   |                   |            |            |        |      |



**CDIV32DC50****Clock Divider by 32 with 50% Duty Cycle Output**

| Device Family   | Macrocells | Logic Cells/Elements | 4-Input LUT | Registers | Block RAM (16K-Bit) | Block RAM (4K-Bit) | Block RAM (8Kx18) | Block RAM (256x9) | Block Multipliers | Total PLLs | Total DLLs | D/GCLK | DCMs |
|-----------------|------------|----------------------|-------------|-----------|---------------------|--------------------|-------------------|-------------------|-------------------|------------|------------|--------|------|
| Arriagx         |            |                      | 6           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone         |            | 8                    | 7           | 6         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Cyclone2        |            | 8                    | 7           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone3        |            | 8                    | 8           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix         |            | 8                    | 7           | 6         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2        |            | 7                    | 6           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix3        |            |                      | 6           | 7         |                     |                    |                   |                   |                   |            |            | 1      |      |
| StratixGX       |            | 8                    | 7           | 6         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2GX      |            |                      | 6           | 6         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max2            |            | 8                    | 7           | 6         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max3000a        | 6          | 6                    |             | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000b        | 6          | 6                    |             | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000ae       | 6          | 6                    |             | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000s        | 6          | 6                    |             | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2        |            | 10                   | 7           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2E       |            | 10                   | 7           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3        |            | 10                   | 7           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3A       |            | 24                   | 18          | 10        |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3ADSP    |            | 22                   | 21          | 10        |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3AN      |            | 24                   | 18          | 10        |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3E       |            | 16                   | 14          | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3L       |            | 16                   | 13          | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex          |            | 10                   | 7           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2         |            | 10                   | 7           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2p        |            | 10                   | 7           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| VirtexE         |            | 10                   | 7           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex4         |            | 16                   | 13          | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex5         |            | 6                    | 9           | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunner2     | 6          |                      |             | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunnerXpla3 | 6          |                      |             | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500          | 6          |                      |             | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XL        | 6          |                      |             | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XV        | 6          |                      |             | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsicPlus     |            | 19                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3        |            | 17                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3E       |            | 17                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| Fusion          |            | 17                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| EC              |            | 8                    | 8           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP             |            | 8                    | 8           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2            |            | 8                    | 8           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2M           |            | 8                    | 8           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| SC              |            | 8                    | 8           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| MACHXO          |            | 10                   | 9           |           |                     |                    |                   |                   |                   |            |            |        |      |
| XP              |            | 12                   | 10          | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| XP2             |            | 8                    | 8           | 6         |                     |                    |                   |                   |                   |            |            |        |      |

## CDIV64

## Clock Divider by 64

| Device Family   | Macrocells | Logic Cells/Elements | 4-Input LUT | Registers | Block RAM (16K-Bit) | Block RAM (4K-Bit) | Block RAM (8Kx18) | Block RAM (256x9) | Block Multipliers | Total PLLs | Total DLLs | D/GCLK | DCMs |
|-----------------|------------|----------------------|-------------|-----------|---------------------|--------------------|-------------------|-------------------|-------------------|------------|------------|--------|------|
| Arriagx         |            |                      | 7           | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone         |            | 8                    | 8           | 7         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Cyclone2        |            | 8                    | 8           | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone3        |            | 8                    | 8           | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix         |            | 8                    | 8           | 7         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2        |            | 8                    | 8           | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix3        |            |                      | 7           | 7         |                     |                    |                   |                   |                   |            |            | 1      |      |
| StratixGX       |            | 8                    | 8           | 7         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2GX      |            |                      | 7           | 7         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max2            |            | 8                    | 8           | 7         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max3000a        | 7          | 7                    |             | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000b        | 7          | 7                    |             | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000ae       | 7          | 7                    |             | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000s        | 7          | 7                    |             | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2        |            | 9                    | 9           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2E       |            | 9                    | 9           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3        |            | 11                   | 9           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3A       |            | 14                   | 14          | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3ADSP    |            | 14                   | 14          | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3AN      |            | 14                   | 14          | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3E       |            | 14                   | 14          | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3L       |            | 14                   | 14          | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex          |            | 9                    | 9           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2         |            | 11                   | 9           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2p        |            | 11                   | 9           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| VirtexE         |            | 9                    | 9           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex4         |            | 15                   | 15          | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex5         |            | 7                    | 1           | 6         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunner2     | 7          |                      |             | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunnerXpla3 | 7          |                      |             | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500          | 7          |                      |             | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XL        | 7          |                      |             | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XV        | 7          |                      |             | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsicPlus     |            | 20                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3        |            | 19                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3E       |            | 19                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| Fusion          |            | 18                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| EC              |            | 8                    | 8           | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP             |            | 8                    | 8           | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2            |            | 14                   | 12          | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2M           |            | 14                   | 12          | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| SC              |            | 8                    | 8           | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| MACHXO          |            | 12                   | 10          |           |                     |                    |                   |                   |                   |            |            |        |      |
| XP              |            | 10                   | 9           | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| XP2             |            |                      |             |           |                     |                    |                   |                   |                   |            |            |        |      |

**CDIV64DC50****Clock Divider by 64 with 50% Duty Cycle Output**

| Device Family   | Macrocells | Logic Cells/Elements | 4-Input LUT | Registers | Block RAM (16K-Bit) | Block RAM (4K-Bit) | Block RAM (8Kx18) | Block RAM (256x9) | Block Multipliers | Total PLLs | Total DLLs | D/GCLK | DCMs |
|-----------------|------------|----------------------|-------------|-----------|---------------------|--------------------|-------------------|-------------------|-------------------|------------|------------|--------|------|
| Arriagx         |            |                      | 9           | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone         |            | 10                   | 9           | 7         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Cyclone2        |            | 10                   | 9           | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone3        |            | 10                   | 10          | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix         |            | 10                   | 9           | 7         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2        |            | 9                    | 8           | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix3        |            |                      | 9           | 7         |                     |                    |                   |                   |                   |            |            | 1      |      |
| StratixGX       |            | 10                   | 9           | 7         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2GX      |            |                      | 9           | 7         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max2            |            | 10                   | 9           | 7         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max3000a        | 7          | 7                    |             | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000b        | 7          | 7                    |             | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000ae       | 7          | 7                    |             | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000s        | 7          | 7                    |             | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2        |            | 12                   | 8           | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2E       |            | 12                   | 8           | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3        |            | 12                   | 9           | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3A       |            | 19                   | 19          | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3ADSP    |            | 23                   | 22          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3AN      |            | 19                   | 19          | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3E       |            | 19                   | 15          | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3L       |            | 19                   | 16          | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex          |            | 12                   | 8           | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2         |            | 12                   | 9           | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2p        |            | 10                   | 8           | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| VirtexE         |            | 12                   | 8           | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex4         |            | 19                   | 15          | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex5         |            | 8                    | 11          | 11        |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunner2     | 7          |                      |             | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunnerXpla3 | 7          |                      |             | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500          | 7          |                      |             | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XL        | 7          |                      |             | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XV        | 7          |                      |             | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsicPlus     |            | 22                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3        |            | 20                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3E       |            | 21                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| Fusion          |            | 21                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| EC              |            | 12                   | 10          | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP             |            | 12                   | 10          | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2            |            | 10                   | 10          | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2M           |            | 10                   | 10          | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| SC              |            | 12                   | 11          | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| MACHXO          |            | 12                   | 11          |           |                     |                    |                   |                   |                   |            |            |        |      |
| XP              |            | 12                   | 11          | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| XP2             |            | 10                   | 10          | 7         |                     |                    |                   |                   |                   |            |            |        |      |

## CDIV128

## Clock Divider by 128

| Device Family   | Macrocells | Logic Cells/Elements | 4-Input LUT | Registers | Block RAM (16K-Bit) | Block RAM (4K-Bit) | Block RAM (8Kx18) | Block RAM (256x9) | Block Multipliers | Total PLLs | Total DLLs | D/GCLK | DCMs |
|-----------------|------------|----------------------|-------------|-----------|---------------------|--------------------|-------------------|-------------------|-------------------|------------|------------|--------|------|
| Arriagx         |            |                      | 9           | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone         |            | 9                    | 9           | 8         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Cyclone2        |            | 9                    | 9           | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone3        |            | 9                    | 9           | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix         |            | 9                    | 9           | 8         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2        |            | 9                    | 9           | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix3        |            |                      | 9           | 8         |                     |                    |                   |                   |                   |            |            | 1      |      |
| StratixGX       |            | 9                    | 9           | 8         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2GX      |            |                      | 9           | 8         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max2            |            | 9                    | 9           | 8         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max3000a        | 8          | 8                    |             | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000b        | 8          | 8                    |             | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000ae       | 8          | 8                    |             | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000s        | 8          | 8                    |             | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2        |            | 11                   | 10          | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2E       |            | 11                   | 10          | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3        |            | 13                   | 10          | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3A       |            | 17                   | 16          | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3ADSP    |            | 17                   | 16          | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3AN      |            | 17                   | 16          | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3E       |            | 17                   | 16          | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3L       |            | 17                   | 16          | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex          |            | 11                   | 10          | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2         |            | 13                   | 10          | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2p        |            | 13                   | 10          | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| VirtexE         |            | 11                   | 10          | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex4         |            | 18                   | 17          | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex5         |            | 7                    | 1           | 7         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunner2     | 8          |                      |             | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunnerXpla3 | 8          |                      |             | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500          | 8          |                      |             | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XL        | 8          |                      |             | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XV        | 8          |                      |             | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsicPlus     |            | 25                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3        |            | 24                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3E       |            | 24                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| Fusion          |            | 23                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| EC              |            | 10                   | 10          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP             |            | 10                   | 10          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2            |            | 14                   | 12          | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2M           |            | 14                   | 12          | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| SC              |            | 10                   | 10          | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| MACHXO          |            | 12                   | 11          |           |                     |                    |                   |                   |                   |            |            |        |      |
| XP              |            | 10                   | 10          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| XP2             |            | 12                   | 11          | 8         |                     |                    |                   |                   |                   |            |            |        |      |

**CDIV128DC50****Clock Divider by 128 with 50% Duty Cycle Output**

| Device Family   | Macrocells | Logic Cells/Elements | 4-Input LUT | Registers | Block RAM (16K-Bit) | Block RAM (4K-Bit) | Block RAM (8Kx18) | Block RAM (256x9) | Block Multipliers | Total PLLs | Total DLLs | D/GCLK | DCMs |
|-----------------|------------|----------------------|-------------|-----------|---------------------|--------------------|-------------------|-------------------|-------------------|------------|------------|--------|------|
| Arriagx         |            |                      | 10          | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone         |            | 12                   | 11          | 8         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Cyclone2        |            | 12                   | 11          | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone3        |            | 12                   | 12          | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix         |            | 12                   | 11          | 8         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2        |            | 10                   | 9           | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix3        |            |                      | 10          | 8         |                     |                    |                   |                   |                   |            |            | 1      |      |
| StratixGX       |            | 12                   | 11          | 8         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2GX      |            |                      | 10          | 8         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max2            |            | 12                   | 11          | 8         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max3000a        | 8          | 8                    |             | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000b        | 8          | 8                    |             | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000ae       | 8          | 8                    |             | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000s        | 8          | 8                    |             | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2        |            | 12                   | 2           | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2E       |            | 12                   | 2           | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3        |            | 12                   | 9           | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3A       |            | 26                   | 26          | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3ADSP    |            | 24                   | 23          | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3AN      |            | 26                   | 26          | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3E       |            | 20                   | 10          | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3L       |            | 20                   | 10          | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex          |            | 12                   | 2           | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2         |            | 12                   | 9           | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2p        |            | 12                   | 9           | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| VirtexE         |            | 12                   | 2           | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex4         |            | 20                   | 17          | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex5         |            | 8                    | 8           | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunner2     | 8          |                      |             | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunnerXpla3 | 8          |                      |             | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500          | 8          |                      |             | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XL        | 8          |                      |             | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XV        | 8          |                      |             | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsicPlus     |            | 27                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3        |            | 25                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3E       |            | 26                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| Fusion          |            | 25                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| EC              |            | 12                   | 12          | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP             |            | 12                   | 12          | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2            |            | 18                   | 14          | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2M           |            | 18                   | 14          | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| SC              |            | 12                   | 11          | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| MACHXO          |            | 20                   | 13          |           |                     |                    |                   |                   |                   |            |            |        |      |
| XP              |            | 14                   | 12          | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| XP2             |            | 16                   | 13          | 8         |                     |                    |                   |                   |                   |            |            |        |      |

## CDIV256

## Clock Divider by 256

| Device Family   | Macrocells | Logic Cells/Elements | 4-Input LUT | Registers | Block RAM (16K-Bit) | Block RAM (4K-Bit) | Block RAM (8Kx18) | Block RAM (256x9) | Block Multipliers | Total PLLs | Total DLLs | D/GCLK | DCMs |
|-----------------|------------|----------------------|-------------|-----------|---------------------|--------------------|-------------------|-------------------|-------------------|------------|------------|--------|------|
| Arriagx         |            |                      | 10          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone         |            | 11                   | 11          | 9         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Cyclone2        |            | 11                   | 11          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone3        |            | 11                   | 11          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix         |            | 11                   | 11          | 9         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2        |            | 10                   | 10          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix3        |            |                      | 10          | 9         |                     |                    |                   |                   |                   |            |            | 1      |      |
| StratixGX       |            | 11                   | 11          | 9         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2GX      |            |                      | 10          | 9         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max2            |            | 11                   | 11          | 9         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max3000a        | 9          | 9                    |             | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000b        | 9          | 9                    |             | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000ae       | 9          | 9                    |             | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000s        | 9          | 9                    |             | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2        |            | 11                   | 11          | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2E       |            | 11                   | 11          | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3        |            | 13                   | 11          | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3A       |            | 18                   | 18          | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3ADSP    |            | 20                   | 19          | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3AN      |            | 18                   | 18          | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3E       |            | 18                   | 18          | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3L       |            | 18                   | 18          | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex          |            | 11                   | 11          | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2         |            | 13                   | 11          | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2p        |            | 13                   | 11          | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| VirtexE         |            | 11                   | 11          | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex4         |            | 19                   | 19          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex5         |            | 7                    | 1           | 8         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunner2     | 9          |                      |             | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunnerXpla3 | 9          |                      |             | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500          | 9          |                      |             | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XL        | 9          |                      |             | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XV        | 9          |                      |             | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsicPlus     |            | 30                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3        |            | 28                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3E       |            | 28                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| Fusion          |            | 27                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| EC              |            | 12                   | 11          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP             |            | 12                   | 11          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2            |            | 16                   | 14          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2M           |            | 16                   | 14          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| SC              |            | 10                   | 10          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| MACHXO          |            | 14                   | 12          |           |                     |                    |                   |                   |                   |            |            |        |      |
| XP              |            | 12                   | 11          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| XP2             |            | 14                   | 13          | 9         |                     |                    |                   |                   |                   |            |            |        |      |

**CDIV256DC50****Clock Divider by 256 with 50% Duty Cycle Output**

| Device Family   | Macrocells | Logic Cells/Elements | 4-Input LUT | Registers | Block RAM (16K-Bit) | Block RAM (4K-Bit) | Block RAM (8Kx18) | Block RAM (256x9) | Block Multipliers | Total PLLs | Total DLLs | D/GCLK | DCMs |
|-----------------|------------|----------------------|-------------|-----------|---------------------|--------------------|-------------------|-------------------|-------------------|------------|------------|--------|------|
| Arriagx         |            |                      | 11          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone         |            | 19                   | 12          | 9         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Cyclone2        |            | 14                   | 13          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone3        |            | 13                   | 13          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix         |            | 19                   | 12          | 9         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2        |            | 12                   | 11          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix3        |            |                      | 12          | 9         |                     |                    |                   |                   |                   |            |            | 1      |      |
| StratixGX       |            | 19                   | 12          | 9         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2GX      |            |                      | 11          | 9         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max2            |            | 13                   | 12          | 9         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max3000a        | 9          | 9                    |             | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000b        | 9          | 9                    |             | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000ae       | 9          | 9                    |             | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000s        | 9          | 9                    |             | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2        |            | 14                   | 3           | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2E       |            | 14                   | 3           | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3        |            | 16                   | 12          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3A       |            | 29                   | 28          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3ADSP    |            | 27                   | 27          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3AN      |            | 29                   | 28          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3E       |            | 25                   | 12          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3L       |            | 25                   | 12          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex          |            | 14                   | 3           | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2         |            | 14                   | 12          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2p        |            | 14                   | 12          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| VirtexE         |            | 14                   | 3           | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex4         |            | 25                   | 21          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex5         |            | 6                    | 9           | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunner2     | 9          |                      |             | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunnerXpla3 | 9          |                      |             | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500          | 9          |                      |             | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XL        | 9          |                      |             | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XV        | 9          |                      |             | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsicPlus     |            | 32                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3        |            | 30                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3E       |            | 30                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| Fusion          |            | 29                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| EC              |            | 14                   | 14          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP             |            | 14                   | 14          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2            |            | 20                   | 17          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2M           |            | 20                   | 17          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| SC              |            | 18                   | 14          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| MACHXO          |            | 22                   | 14          |           |                     |                    |                   |                   |                   |            |            |        |      |
| XP              |            | 16                   | 15          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| XP2             |            | 18                   | 16          | 9         |                     |                    |                   |                   |                   |            |            |        |      |

## CDIVN\_8

## 8-Bit Programmable Clock Divider

| Device Family   | Macrocells | Logic Cells/Elements | 4-Input LUT | Registers | Block RAM (16K-Bit) | Block RAM (4K-Bit) | Block RAM (8Kx18) | Block RAM (256x9) | Block Multipliers | Total PLLs | Total DLLs | D/GCLK | DCMs |
|-----------------|------------|----------------------|-------------|-----------|---------------------|--------------------|-------------------|-------------------|-------------------|------------|------------|--------|------|
| Arriagx         |            |                      | 15          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone         |            | 26                   | 26          | 9         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Cyclone2        |            | 24                   | 24          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone3        |            | 24                   | 24          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix         |            | 26                   | 26          | 9         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2        |            | 24                   | 24          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix3        |            |                      | 15          | 9         |                     |                    |                   |                   |                   |            |            | 1      |      |
| StratixGX       |            | 26                   | 26          | 9         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2GX      |            |                      | 14          | 9         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max2            |            | 25                   | 25          | 9         |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max3000a        | 24         | 24                   |             | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000b        | 24         | 24                   |             | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000ae       | 24         | 24                   |             | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000s        | 24         | 24                   |             | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2        |            | 18                   | 16          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2E       |            | 18                   | 16          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3        |            | 26                   | 24          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3A       |            | 53                   | 51          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3ADSP    |            | 45                   | 45          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3AN      |            | 53                   | 51          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3E       |            | 39                   | 37          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3L       |            | 27                   | 25          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex          |            | 18                   | 16          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2         |            | 26                   | 24          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2p        |            | 26                   | 24          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| VirtexE         |            | 18                   | 16          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex4         |            | 35                   | 33          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex5         |            | 18                   | 10          | 10        |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunner2     | 10         |                      |             | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunnerXpla3 | 10         |                      |             | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500          | 10         |                      |             | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XL        | 10         |                      |             | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XV        | 10         |                      |             | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsicPlus     |            | 53                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3        |            | 46                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3E       |            | 50                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| Fusion          |            | 50                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| EC              |            | 24                   | 24          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP             |            | 24                   | 24          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2            |            | 24                   | 20          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2M           |            | 24                   | 20          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| SC              |            | 34                   | 24          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| MACHXO          |            | 20                   | 19          |           |                     |                    |                   |                   |                   |            |            |        |      |
| XP              |            | 28                   | 28          | 9         |                     |                    |                   |                   |                   |            |            |        |      |
| XP2             |            | 34                   | 27          | 9         |                     |                    |                   |                   |                   |            |            |        |      |



## CDIVN\_16

## 16-Bit Programmable Clock Divider

| Device Family   | Macrocells | Logic Cells/Elements | 4-Input LUT | Registers | Block RAM (16K-Bit) | Block RAM (4K-Bit) | Block RAM (8Kx18) | Block RAM (256x9) | Block Multipliers | Total PLLs | Total DLLs | D/GCLK | DCMs |
|-----------------|------------|----------------------|-------------|-----------|---------------------|--------------------|-------------------|-------------------|-------------------|------------|------------|--------|------|
| Arriagx         |            |                      | 27          | 17        |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone         |            | 47                   | 47          | 17        |                     |                    |                   |                   |                   |            |            | 1      |      |
| Cyclone2        |            | 45                   | 45          | 17        |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone3        |            | 45                   | 45          | 17        |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix         |            | 47                   | 47          | 17        |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2        |            | 28                   | 28          | 17        |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix3        |            |                      | 27          | 17        |                     |                    |                   |                   |                   |            |            | 1      |      |
| StratixGX       |            | 47                   | 47          | 17        |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2GX      |            |                      | 26          | 17        |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max2            |            | 46                   | 46          | 17        |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max3000a        | 48         | 48                   |             | 17        |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000b        | 48         | 48                   |             | 17        |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000ae       | 48         | 48                   |             | 17        |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000s        | 48         | 48                   |             | 17        |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2        |            | 32                   | 28          | 17        |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2E       |            | 32                   | 28          | 17        |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3        |            | 34                   | 28          | 17        |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3A       |            | 55                   | 51          | 17        |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3ADSP    |            | 53                   | 50          | 17        |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3AN      |            | 55                   | 51          | 17        |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3E       |            | 49                   | 45          | 17        |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3L       |            | 49                   | 45          | 17        |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex          |            | 32                   | 28          | 17        |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2         |            | 34                   | 28          | 17        |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2p        |            | 34                   | 28          | 17        |                     |                    |                   |                   |                   |            |            |        |      |
| VirtexE         |            | 32                   | 28          | 17        |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex4         |            | 49                   | 45          | 17        |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex5         |            | 18                   | 17          | 17        |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunner2     | 23         |                      |             | 17        |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunnerXpla3 | 142        |                      |             | 17        |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500          | 29         |                      |             | 17        |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XL        | 28         |                      |             | 17        |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XV        | 28         |                      |             | 17        |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsicPlus     |            | 110                  |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3        |            | 96                   |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3E       |            | 108                  |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| Fusion          |            | 107                  |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| EC              |            | 46                   | 45          | 17        |                     |                    |                   |                   |                   |            |            |        |      |
| ECP             |            | 46                   | 45          | 17        |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2            |            | 36                   | 33          | 17        |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2M           |            | 36                   | 33          | 17        |                     |                    |                   |                   |                   |            |            |        |      |
| SC              |            | 64                   | 44          | 17        |                     |                    |                   |                   |                   |            |            |        |      |
| MACHXO          |            | 32                   | 30          |           |                     |                    |                   |                   |                   |            |            |        |      |
| XP              |            | 74                   | 60          | 17        |                     |                    |                   |                   |                   |            |            |        |      |
| XP2             |            | 62                   | 48          | 17        |                     |                    |                   |                   |                   |            |            |        |      |

## CDIVN\_32

## 32-Bit Programmable Clock Divider

| Device Family   | Macrocells | Logic Cells/Elements | 4-Input LUT | Registers | Block RAM (16K-Bit) | Block RAM (4K-Bit) | Block RAM (8Kx18) | Block RAM (256x9) | Block Multipliers | Total PLLs | Total DLLs | D/GCLK | DCMs |
|-----------------|------------|----------------------|-------------|-----------|---------------------|--------------------|-------------------|-------------------|-------------------|------------|------------|--------|------|
| Arriagx         |            |                      | 52          | 33        |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone         |            | 89                   | 89          | 33        |                     |                    |                   |                   |                   |            |            | 1      |      |
| Cyclone2        |            | 89                   | 89          | 33        |                     |                    |                   |                   |                   |            |            |        |      |
| Cyclone3        |            | 87                   | 87          | 33        |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix         |            | 120                  | 89          | 33        |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix2        |            | 53                   | 53          | 33        |                     |                    |                   |                   |                   |            |            |        |      |
| Stratix3        |            |                      | 53          | 33        |                     |                    |                   |                   |                   |            |            | 1      |      |
| StratixGX       |            | 89                   | 89          | 33        |                     |                    |                   |                   |                   |            |            | 1      |      |
| Stratix2GX      |            |                      | 52          | 33        |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max2            |            | 88                   | 88          | 33        |                     |                    |                   |                   |                   |            |            | 1      |      |
| Max3000a        | 129        | 129                  |             | 33        |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000b        | 129        | 129                  |             | 33        |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000ae       | 129        | 129                  |             | 33        |                     |                    |                   |                   |                   |            |            |        |      |
| Max7000s        | 84         | 84                   |             | 33        |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2        |            | 62                   | 55          | 33        |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan2E       |            | 62                   | 55          | 33        |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3        |            | 62                   | 55          | 33        |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3A       |            | 85                   | 83          | 33        |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3ADSP    |            | 85                   | 83          | 33        |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3AN      |            | 85                   | 83          | 33        |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3E       |            | 93                   | 86          | 33        |                     |                    |                   |                   |                   |            |            |        |      |
| Spartan3L       |            | 85                   | 83          | 33        |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex          |            | 62                   | 55          | 33        |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2         |            | 62                   | 55          | 33        |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex2p        |            | 62                   | 55          | 33        |                     |                    |                   |                   |                   |            |            |        |      |
| VirtexE         |            | 62                   | 55          | 33        |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex4         |            | 95                   | 88          | 33        |                     |                    |                   |                   |                   |            |            |        |      |
| Virtex5         |            | 36                   | 33          | 33        |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunner2     | 72         |                      |             | 33        |                     |                    |                   |                   |                   |            |            |        |      |
| CoolRunnerXpla3 | 300        |                      |             | 33        |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500          | 73         |                      |             | 33        |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XL        | 73         |                      |             | 33        |                     |                    |                   |                   |                   |            |            |        |      |
| Xc9500XV        | 73         |                      |             | 33        |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsicPlus     |            | 233                  |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3        |            | 386                  |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| ProAsic3E       |            | 363                  |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| Fusion          |            | 227                  |             |           |                     |                    |                   |                   |                   |            |            |        |      |
| EC              |            | 88                   | 87          | 33        |                     |                    |                   |                   |                   |            |            |        |      |
| ECP             |            | 88                   | 87          | 33        |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2            |            | 64                   | 59          | 33        |                     |                    |                   |                   |                   |            |            |        |      |
| ECP2M           |            | 64                   | 59          | 33        |                     |                    |                   |                   |                   |            |            |        |      |
| SC              |            | 124                  | 87          | 33        |                     |                    |                   |                   |                   |            |            |        |      |
| MACHXO          |            | 60                   | 57          |           |                     |                    |                   |                   |                   |            |            |        |      |
| XP              |            | 148                  | 120         | 33        |                     |                    |                   |                   |                   |            |            |        |      |
| XP2             |            | 124                  | 90          | 33        |                     |                    |                   |                   |                   |            |            |        |      |

## Tools Utilized

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The following vendor device tools were used to determine the resource usage statistics:

### **Actel**

Actel Designer Software Version 6.2

### **Altera**

Quartus II 5.0

### **Lattice**

ispLEVER 5.0

### **Xilinx**

Xilinx ISE 6.3

For Virtex4, Spartan3, Spartan3E the Xilinx ISE 7.1 was used.

## Revision History

| Date        | Version No. | Revision  |
|-------------|-------------|---|
| 6-Dec-2004  | 1.0         | Service pack 2 release  |
| 12-Apr-2005 | 1.01        | Added Virtex4 and Stratix2 resource usage   |
| 6-Jun-2005  | 1.02        | Added MAX2 resource usage   |
| 15-Sep-2005 | 1.03        | Added EC, ECP, Spartan3E, Cyclone2 and StratixGX resource usage                         |
| 13-Oct-2005 | 1.04        | Added ProAsic3 and ProAsic3E resource usage   |
| 20-Apr-2006 | 1.06        | Tools Utilized section added  |
| 16-Jun-2006 | 1.07        | XP resource usage added   |
| 28-Jul-2006 | 1.08        | MACHXO resource usage added   |
| 10-Apr-2007 | 1.09        | Cyclone3, ECP2, ECP2M, Spartan3A, Spartan3E, Spartan3L and Virtex5 resource usage added |
| 17-Jul-2008 | 1.10        | Altium Designer Summer 08 SP1   |
| 19-Dec-2008 | 1.11        | Altium Designer Winter 09 SP1   |

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