

| I/O & VREF Bank | Pad Number Orientation | Pin/Pad Function    | 144-Pin TQFP (1) | 208-Pin PQFP (1) | 240-Pin PQFP (1) | 144-Pin FineLine BGA | 324-Pin FineLine BGA | 356-Pin BGA |
|-----------------|------------------------|---------------------|------------------|------------------|------------------|----------------------|----------------------|-------------|
| 8               | 1                      | I/O                 | –                | –                | 180              | –                    | A1                   | E22         |
| 8               | 2                      | I/O                 | –                | 155              | 178              | –                    | B1                   | F22         |
| 8               | 3                      | I/O                 | –                | –                | –                | –                    | C1                   | D25         |
| –               | 4                      | VCCIO               | VCCIO8           | VCCIO8           | VCCIO8           | VCCIO8               | –                    | VCCIO8      |
| 8               | 5                      | I/O                 | –                | –                | –                | –                    | C4                   | E24         |
| –               | 6                      | VCCINT              | VCCINT           | VCCINT           | VCCINT           | VCCINT               | VCCINT               | VCCINT      |
| 8               | 7                      | I/O                 | –                | 154              | 176              | –                    | C2                   | F23         |
| 8               | 8                      | I/O                 | –                | –                | 175              | –                    | D1                   | D26         |
| 8               | 9                      | I/O                 | –                | 153              | 174              | –                    | C3                   | G22         |
| 8               | 10                     | I/O                 | –                | –                | 173              | –                    | D3                   | E25         |
| 8               | 11                     | I/O                 | –                | 152              | 172              | –                    | D2                   | E26         |
| –               | 12                     | VCCIO               | VCCIO8           | VCCIO8           | VCCIO8           | VCCIO8               | VCCIO8               | VCCIO8      |
| 8               | 13                     | I/O                 | –                | –                | 171              | –                    | F3                   | F25         |
| 8               | 14                     | I/O                 | –                | –                | –                | –                    | E1                   | G24         |
| 8               | 15                     | I/O                 | –                | 151              | 170              | –                    | D5                   | F26         |
| 8               | 16                     | I/O                 | –                | –                | –                | –                    | E4                   | H23         |
| 8               | 17                     | I/O, DATA6 (2)      | 105              | 150              | 169              | B2                   | G4                   | F24         |
| –               | 18                     | GNDINT              | GND              | GND              | GND              | GND                  | GND                  | GND         |
| 8               | 19                     | I/O                 | –                | –                | –                | –                    | F1                   | G25         |
| 8               | 20                     | I/O                 | –                | 148              | 168              | –                    | E2                   | J22         |
| 8               | 21                     | I/O                 | –                | 147              | 167              | –                    | G2                   | G26         |
| 8               | 22                     | I/O                 | –                | –                | –                | –                    | E3                   | H25         |
| 8               | 23                     | I/O, DATA7 (2)      | 104              | 146              | 166              | C1                   | H6                   | G23         |
| –               | 24                     | GNDIO               | GND              | GND              | GND              | GND                  | GND                  | GND         |
| 8               | 25                     | I/O, nWS (2)        | 103              | 145              | 164              | C2                   | K5                   | H22         |
| 8               | 26                     | I/O                 | –                | –                | –                | –                    | F4                   | H26         |
| 8               | 27                     | I/O                 | –                | 144              | 163              | –                    | F2                   | K22         |
| 8               | 28                     | I/O, nRS (2)        | 102              | 142              | 161              | D2                   | J6                   | H24         |
| 8               | 29                     | I/O, nCS (2)        | 101              | 141              | 160              | D3                   | H5                   | J24         |
| –               | 30                     | VCCINT              | VCCINT           | VCCINT           | VCCINT           | VCCINT               | VCCINT               | VCCINT      |
| –               | 31                     | VCC_CK4 (3)         | 100              | 140              | 159              | D4                   | K6                   | K24         |
| –               | 32                     | GND_CK4 (3)         | 99               | 139              | 158              | E2                   | L6                   | L22         |
| –               | 33                     | GND_CK4 (3)         | 99               | 139              | 158              | E2                   | L6                   | L22         |
| 8               | 34                     | I/O                 | –                | –                | –                | –                    | J1                   | J26         |
| 8               | 35                     | I/O, CS (2)         | 98               | 138              | 157              | E3                   | M2                   | K25         |
| 8               | 36                     | I/O, DEV_CLRn (4)   | 97               | 137              | 156              | E4                   | L5                   | L23         |
| –               | 37                     | VCCIO               | VCCIO8           | VCCIO8           | VCCIO8           | VCCIO8               | VCCIO8               | VCCIO8      |
| 8               | 38                     | I/O, CLKLK_FB2n (5) | –                | –                | –                | F5                   | M4                   | L24         |
| 8               | 39                     | CLKLK_FB2p          | 96               | 135              | 155              | F4                   | N4                   | L25         |
| 8               | 40                     | I/O, CLK4n (5)      | –                | –                | –                | F3                   | L3                   | L26         |
| 8               | 41                     | CLK4p               | 95               | 134              | 154              | F2                   | L2                   | M23         |
| 8               | 42                     | I/O, CLK2n (5)      | –                | –                | –                | G4                   | J5                   | M24         |
| –               | 43                     | DATA0 (6), (11)     | 94               | 133              | 153              | G3                   | J2                   | M26         |
| –               | 44                     | DCLK (6)            | 93               | 132              | 152              | G2                   | J3                   | N25         |
| 8               | 45                     | CLK2p               | 92               | 131              | 151              | G7                   | J4                   | N26         |
| –               | 46                     | nCE (6)             | 91               | 130              | 150              | H5                   | K2                   | P26         |

| I/O &<br>VREF<br>Bank | Pad Number<br>Orientation | Pin/Pad<br>Function        | 144-Pin<br>TQFP (1) | 208-Pin<br>PQFP (1) | 240-Pin<br>PQFP (1) | 144-Pin<br>FineLine BGA | 324-Pin<br>FineLine BGA | 356-Pin<br>BGA |
|-----------------------|---------------------------|----------------------------|---------------------|---------------------|---------------------|-------------------------|-------------------------|----------------|
| –                     | 47                        | TDI (6)                    | 90                  | 129                 | 149                 | H2                      | K3                      | P25            |
| –                     | 48                        | VCCIO                      | VCCIO7              | VCCIO7              | VCCIO7              | VCCIO7                  | VCCIO7                  | VCCIO7         |
| –                     | 49                        | GND_CK2 (3)                | 88                  | 128                 | 147                 | G5                      | K7                      | P24            |
| –                     | 50                        | GND_CK2 (3)                | 88                  | 128                 | 147                 | G5                      | K7                      | P24            |
| –                     | 51                        | GNDINT                     | GND                 | GND                 | GND                 | GND                     | GND                     | GND            |
| –                     | 52                        | VCC_CK2 (3)                | 85                  | 125                 | 144                 | G6                      | J7                      | P23            |
| 7                     | 53                        | I/O, DEV_OE (4)            | 84                  | 124                 | 143                 | J3                      | L4                      | R26            |
| –                     | 54                        | VCC_CKOUT2<br>(7)          | 83                  | 123                 | 142                 | H4                      | P3                      | R25            |
| –                     | 55                        | GND_CKOUT2<br>(7)          | 82                  | 122                 | 141                 | H3                      | P2                      | R24            |
| 7                     | 56                        | I/O                        | –                   | –                   | –                   | –                       | H4                      | T26            |
| 7                     | 57                        | I/O                        | –                   | 121                 | 140                 | –                       | H2                      | T25            |
| –                     | 58                        | GNDIO                      | GND                 | GND                 | GND                 | GND                     | GND                     | GND            |
| –                     | 59                        | CLKLK_OUT2p<br>(8)         | 81                  | 120                 | 139                 | J2                      | M3                      | R23            |
| 7                     | 60                        | I/O,<br>CLKLK_OUT2n<br>(5) | –                   | –                   | –                   | K2                      | N3                      | R22            |
| 7                     | 61                        | I/O, LOCK2 (9)             | 80                  | 119                 | 138                 | K3                      | N2                      | T24            |
| 7                     | 62                        | I/O                        | –                   | –                   | –                   | –                       | G3                      | T23            |
| 7                     | 63                        | I/O                        | 79                  | 117                 | 136                 | L1                      | G5                      | U26            |
| –                     | 64                        | VCCINT                     | VCCINT              | VCCINT              | VCCINT              | VCCINT                  | VCCINT                  | VCCINT         |
| 7                     | 65                        | I/O, LOCK4 (9)             | 78                  | 116                 | 135                 | L2                      | R3                      | V25            |
| 7                     | 66                        | I/O                        | –                   | –                   | –                   | –                       | H3                      | U25            |
| 7                     | 67                        | I/O                        | –                   | –                   | 134                 | –                       | G1                      | U24            |
| 7                     | 68                        | I/O                        | –                   | –                   | –                   | –                       | K4                      | U23            |
| 7                     | 69                        | I/O                        | –                   | –                   | 133                 | –                       | H1                      | U22            |
| –                     | 70                        | VCCIO                      | VCCIO7              | VCCIO7              | VCCIO7              | VCCIO7                  | VCCIO7                  | VCCIO7         |
| 7                     | 71                        | I/O                        | –                   | –                   | –                   | –                       | K1                      | V26            |
| 7                     | 72                        | I/O                        | –                   | –                   | 131                 | –                       | L1                      | V24            |
| 7                     | 73                        | I/O                        | –                   | –                   | 130                 | –                       | M1                      | W26            |
| 7                     | 74                        | I/O                        | –                   | 113                 | 129                 | –                       | N1                      | V23            |
| 7                     | 75                        | I/O                        | –                   | 112                 | 128                 | –                       | R1                      | W25            |
| –                     | 76                        | GNDINT                     | GND                 | GND                 | GND                 | GND                     | GND                     | GND            |
| 7                     | 77                        | I/O                        | 76                  | 111                 | 127                 | L3                      | R2                      | W24            |
| 7                     | 78                        | I/O                        | –                   | –                   | –                   | –                       | P1                      | V22            |
| 7                     | 79                        | I/O                        | 75                  | 110                 | 126                 | J4                      | T1                      | W23            |
| 7                     | 80                        | I/O                        | –                   | –                   | –                   | –                       | V1                      | Y25            |
| 7                     | 81                        | I/O                        | –                   | 109                 | 125                 | –                       | U1                      | W22            |
| –                     | 82                        | GNDIO                      | GND                 | GND                 | GND                 | GND                     | GND                     | GND            |
| –                     | 83                        | VCCINT                     | VCCINT              | VCCINT              | VCCINT              | VCCINT                  | VCCINT                  | VCCINT         |
| 7                     | 84                        | I/O                        | –                   | 108                 | 124                 | –                       | T2                      | Y24            |
| 7                     | 85                        | I/O                        | –                   | –                   | –                   | –                       | U2                      | Y23            |
| 7                     | 86                        | I/O                        | –                   | 107                 | 123                 | –                       | U3                      | Y22            |
| 7                     | 87                        | I/O                        | –                   | 106                 | 121                 | –                       | V2                      | AA22           |
| –                     | 88                        | VCCIO                      | VCCIO7              | VCCIO7              | VCCIO7              | VCCIO7                  | VCCIO7                  | VCCIO7         |
| –                     | 89                        | VCCIO                      | VCCIO6              | VCCIO6              | VCCIO6              | VCCIO6                  | VCCIO6                  | VCCIO6         |

| I/O & VREF Bank | Pad Number Orientation | Pin/Pad Function | 144-Pin TQFP (1) | 208-Pin PQFP (1) | 240-Pin PQFP (1) | 144-Pin FineLine BGA | 324-Pin FineLine BGA | 356-Pin BGA |
|-----------------|------------------------|------------------|------------------|------------------|------------------|----------------------|----------------------|-------------|
| 6               | 90                     | I/O              | 71               | 104              | 119              | K4                   | V3                   | AD24        |
| 6               | 91                     | I/O              | –                | –                | 118              | –                    | T3                   | AE25        |
| 6               | 92                     | I/O              | –                | 103              | 117              | –                    | V4                   | AD23        |
| 6               | 93                     | I/O              | 70               | 102              | 116              | L4                   | P4                   | AE24        |
| 6               | 94                     | I/O              | –                | –                | –                | –                    | M5                   | AF25        |
| 6               | 95                     | I/O              | 69               | 101              | 115              | J5                   | U5                   | AF24        |
| 6               | 96                     | I/O              | –                | –                | –                | –                    | U4                   | AD22        |
| 6               | 97                     | I/O              | 68               | 100              | 114              | H6                   | T4                   | AE23        |
| 6               | 98                     | I/O              | –                | 99               | 113              | –                    | T5                   | AF23        |
| 6               | 99                     | I/O              | –                | –                | 112              | –                    | R5                   | AE22        |
| –               | 100                    | GNDIO            | GND              | GND              | GND              | GND                  | GND                  | GND         |
| 6               | 101                    | I/O              | 67               | 98               | 111              | K5                   | V5                   | AD21        |
| 6               | 102                    | I/O              | –                | 97               | 110              | –                    | R6                   | AF22        |
| 6               | 103                    | I/O              | 66               | 96               | 109              | J6                   | T6                   | AE21        |
| 6               | 104                    | I/O              | –                | –                | –                | –                    | U6                   | AD20        |
| 6               | 105                    | I/O              | 65               | 94               | 107              | L5                   | V7                   | AF21        |
| 6               | 106                    | I/O              | –                | –                | 106              | –                    | P7                   | AE20        |
| 6               | 107                    | I/O              | –                | 93               | 105              | –                    | V6                   | AD19        |
| 6               | 108                    | I/O              | –                | –                | 104              | –                    | U7                   | AF20        |
| 6               | 109                    | I/O              | 64               | 92               | 103              | K6                   | T7                   | AE19        |
| 6               | 110                    | I/O              | –                | –                | –                | –                    | R7                   | AD18        |
| –               | 111                    | VCCIO            | VCCIO6           | VCCIO6           | VCCIO6           | VCCIO6               | VCCIO6               | VCCIO6      |
| 6               | 112                    | I/O              | 63               | 91               | 102              | L6                   | P8                   | AF19        |
| 6               | 113                    | I/O              | –                | 90               | 101              | –                    | R8                   | AE18        |
| 6               | 114                    | I/O              | –                | –                | –                | –                    | T8                   | AF18        |
| 6               | 115                    | I/O              | 62               | 89               | 100              | –                    | M9                   | AD17        |
| 6               | 116                    | I/O              | –                | 88               | 99               | –                    | R10                  | AE17        |
| 6               | 117                    | I/O              | –                | 87               | 98               | –                    | V8                   | AF17        |
| –               | 118                    | VCCIO            | VCCIO6           | VCCIO6           | VCCIO6           | VCCIO6               | –                    | VCCIO6      |
| 6               | 119                    | I/O              | 60               | 85               | 96               | –                    | N9                   | AD16        |
| 6               | 120                    | I/O              | 59               | 84               | 95               | –                    | N8                   | AE16        |
| 6               | 121                    | I/O              | –                | –                | –                | –                    | R9                   | AF16        |
| 6               | 122                    | I/O              | –                | –                | 94               | –                    | P9                   | AD15        |
| –               | 123                    | CONF_DONE (6)    | 58               | 83               | 93               | M3                   | U8                   | AE15        |
| –               | 124                    | nSTATUS (6)      | 57               | 82               | 92               | M4                   | U9                   | AF15        |
| 5               | 125                    | FAST4            | 56               | 81               | 91               | M5                   | T9                   | AE14        |
| –               | 126                    | VCCIO            | VCCIO5           | VCCIO5           | VCCIO5           | VCCIO6               | –                    | VCCIO5      |
| –               | 127                    | GNDINT           | GND              | GND              | GND              | GND                  | GND                  | GND         |
| –               | 128                    | GNDINT           | –                | –                | –                | –                    | –                    | –           |
| –               | 129                    | VCCINT           | VCCINT           | VCCINT           | VCCINT           | VCCINT               | VCCINT               | VCCINT      |
| –               | 130                    | VCCINT           | VCCINT           | VCCINT           | VCCINT           | VCCINT               | VCCINT               | VCCINT      |
| –               | 131                    | GNDINT           | –                | –                | –                | –                    | –                    | –           |
| –               | 132                    | GNDINT           | GND              | GND              | GND              | GND                  | GND                  | GND         |
| –               | 133                    | GNDIO            | GND              | GND              | GND              | GND                  | GND                  | GND         |
| 5               | 134                    | FAST3            | 53               | 77               | 88               | M8                   | T10                  | AF12        |
| –               | 135                    | TCK (6)          | 52               | 76               | 87               | M9                   | U10                  | AE12        |
| –               | 136                    | TMS (6)          | 51               | 75               | 86               | M10                  | U11                  | AF11        |

| I/O & VREF Bank | Pad Number Orientation | Pin/Pad Function | 144-Pin TQFP (1) | 208-Pin PQFP (1) | 240-Pin PQFP (1) | 144-Pin FineLine BGA | 324-Pin FineLine BGA | 356-Pin BGA |
|-----------------|------------------------|------------------|------------------|------------------|------------------|----------------------|----------------------|-------------|
| 5               | 137                    | I/O              | 50               | 74               | 85               | L7                   | V9                   | AE11        |
| 5               | 138                    | I/O              | –                | 73               | 84               | –                    | P10                  | AD11        |
| 5               | 139                    | I/O              | –                | –                | 83               | –                    | V10                  | AF10        |
| 5               | 140                    | I/O              | 49               | 72               | 82               | L8                   | T11                  | AE10        |
| 5               | 141                    | I/O              | –                | –                | –                | –                    | N10                  | AD10        |
| 5               | 142                    | I/O              | 48               | 71               | 81               | K7                   | P11                  | AF9         |
| 5               | 143                    | I/O              | –                | –                | 80               | –                    | V11                  | AE9         |
| 5               | 144                    | I/O              | 47               | 70               | 79               | J7                   | R11                  | AF8         |
| 5               | 145                    | I/O              | –                | 69               | 77               | –                    | V12                  | AD9         |
| 5               | 146                    | I/O              | 46               | 68               | 76               | K8                   | M10                  | AE8         |
| –               | 147                    | VCCIO            | VCCIO5           | VCCIO5           | VCCIO5           | VCCIO5               | VCCIO5               | VCCIO5      |
| 5               | 148                    | I/O              | –                | 67               | 75               | –                    | U12                  | AF7         |
| 5               | 149                    | I/O              | –                | –                | –                | –                    | T12                  | AD8         |
| 5               | 150                    | I/O              | –                | 66               | 74               | –                    | R12                  | AE7         |
| 5               | 151                    | I/O              | 44               | 65               | 73               | H7                   | N11                  | AF6         |
| 5               | 152                    | I/O              | –                | –                | –                | –                    | V13                  | AD7         |
| 5               | 153                    | I/O              | –                | 63               | 72               | –                    | P12                  | AE6         |
| 5               | 154                    | I/O              | 43               | 62               | 71               | L9                   | U13                  | AF5         |
| 5               | 155                    | I/O              | –                | –                | 70               | –                    | V14                  | AD6         |
| 5               | 156                    | I/O              | –                | 61               | 69               | –                    | T13                  | AE5         |
| 5               | 157                    | I/O              | 41               | 60               | 68               | J8                   | U14                  | AF4         |
| –               | 158                    | GNDIO            | GND              | GND              | GND              | GND                  | GND                  | GND         |
| –               | 159                    | VCCIO            | VCCIO5           | VCCIO5           | VCCIO5           | VCCIO5               | –                    | VCCIO5      |
| 5               | 160                    | I/O              | 40               | 59               | 66               | K9                   | R13                  | AF3         |
| 5               | 161                    | I/O              | –                | –                | –                | –                    | T14                  | AE4         |
| 5               | 162                    | I/O              | –                | 58               | 65               | –                    | R14                  | AD5         |
| 5               | 163                    | I/O              | –                | –                | –                | –                    | U15                  | AF2         |
| 5               | 164                    | I/O              | 39               | 57               | 64               | L10                  | T15                  | AE3         |
| 5               | 165                    | I/O              | –                | –                | –                | –                    | R16                  | AD4         |
| 5               | 166                    | I/O              | 38               | 56               | 63               | H8                   | T16                  | AC5         |
| 5               | 167                    | I/O              | –                | 55               | 62               | –                    | V16                  | AE2         |
| 5               | 168                    | I/O              | –                | –                | –                | –                    | V15                  | AD3         |
| 5               | 169                    | I/O              | 37               | 54               | 61               | K10                  | U16                  | AC4         |
| –               | 170                    | VCCIO            | VCCIO5           | VCCIO5           | VCCIO5           | VCCIO5               | VCCIO5               | VCCIO5      |
| –               | 171                    | VCCIO            | VCCIO4           | VCCIO4           | VCCIO4           | VCCIO4               | VCCIO4               | VCCIO4      |
| 4               | 172                    | I/O              | –                | 51               | 59               | –                    | U17                  | AA5         |
| 4               | 173                    | I/O              | 35               | 50               | 58               | L12                  | T18                  | AA4         |
| 4               | 174                    | I/O              | –                | –                | –                | –                    | V17                  | Y5          |
| 4               | 175                    | I/O              | –                | 49               | 57               | –                    | N15                  | Y4          |
| –               | 176                    | GNDINT           | GND              | GND              | GND              | GND                  | GND                  | GND         |
| –               | 177                    | GNDIO            | GND              | GND              | GND              | GND                  | GND                  | GND         |
| 4               | 178                    | I/O              | –                | 48               | 55               | –                    | V18                  | W5          |
| 4               | 179                    | I/O              | –                | –                | 54               | –                    | P15                  | Y3          |
| 4               | 180                    | I/O              | 33               | 47               | 53               | L11                  | M14                  | Y2          |
| 4               | 181                    | I/O              | –                | –                | 52               | –                    | R17                  | W4          |
| 4               | 182                    | I/O              | 32               | 46               | 51               | K11                  | P16                  | Y1          |
| –               | 183                    | VCCINT           | VCCINT           | VCCINT           | VCCINT           | VCCINT               | VCCINT               | VCCINT      |

| I/O & VREF Bank | Pad Number Orientation | Pin/Pad Function    | 144-Pin TQFP (1) | 208-Pin PQFP (1) | 240-Pin PQFP (1) | 144-Pin FineLine BGA | 324-Pin FineLine BGA | 356-Pin BGA |
|-----------------|------------------------|---------------------|------------------|------------------|------------------|----------------------|----------------------|-------------|
| 4               | 184                    | I/O                 | 31               | 45               | 50               | J10                  | P17                  | W3          |
| 4               | 185                    | I/O                 | –                | –                | 49               | –                    | T17                  | V5          |
| 4               | 186                    | I/O                 | 30               | 44               | 48               | J11                  | R18                  | W2          |
| 4               | 187                    | I/O                 | –                | –                | 47               | –                    | U18                  | V4          |
| 4               | 188                    | I/O                 | 29               | –                | 46               | –                    | N16                  | W1          |
| –               | 189                    | VCCIO               | VCCIO4           | VCCIO4           | VCCIO4           | VCCIO4               | VCCIO4               | VCCIO4      |
| 4               | 190                    | I/O                 | 27               | 41               | 44               | –                    | L13                  | V3          |
| 4               | 191                    | I/O                 | –                | –                | –                | –                    | M15                  | U5          |
| 4               | 192                    | I/O                 | 26               | 40               | 43               | J9                   | N17                  | V2          |
| 4               | 193                    | I/O                 | –                | 38               | 41               | –                    | K13                  | V1          |
| 4               | 194                    | I/O                 | –                | 37               | 40               | –                    | L14                  | U3          |
| –               | 195                    | GNDINT              | GND              | GND              | GND              | GND                  | GND                  | GND         |
| 4               | 196                    | I/O                 | –                | 36               | 39               | –                    | M16                  | U2          |
| 4               | 197                    | I/O                 | –                | 35               | 38               | –                    | J12                  | T5          |
| 4               | 198                    | I/O                 | 25               | 34               | 37               | H10                  | P18                  | U1          |
| 4               | 199                    | I/O                 | –                | –                | –                | –                    | L15                  | T4          |
| 4               | 200                    | I/O                 | 24               | 33               | 36               | H11                  | K14                  | T3          |
| –               | 201                    | GNDIO               | GND              | GND              | GND              | GND                  | GND                  | GND         |
| 4               | 202                    | I/O                 | –                | –                | –                | –                    | J13                  | T2          |
| 4               | 203                    | I/O                 | –                | 32               | 35               | –                    | M17                  | R5          |
| 4               | 204                    | I/O, CLK3n (5)      | –                | –                | –                | H9                   | H16                  | T1          |
| 4               | 205                    | CLK3p               | 23               | 31               | 34               | G8                   | H15                  | R4          |
| 4               | 206                    | I/O, CLK1n (5)      | –                | 30               | –                | G11                  | K15                  | R3          |
| –               | 207                    | VCCINT              | VCCINT           | VCCINT           | VCCINT           | VCCINT               | VCCINT               | VCCINT      |
| –               | 208                    | nCONFIG (6)         | 22               | 29               | 33               | G10                  | K17                  | R1          |
| –               | 209                    | CLKLK_ENA (6), (10) | 21               | 28               | 32               | G9                   | K12                  | P4          |
| 4               | 210                    | CLK1p               | 20               | 27               | 31               | F9                   | K16                  | P3          |
| –               | 211                    | MSEL1 (6)           | 19               | 26               | 30               | F10                  | J16                  | P2          |
| –               | 212                    | MSEL0 (6)           | 18               | 25               | 29               | F11                  | J17                  | P1          |
| 3               | 213                    | I/O                 | –                | –                | –                | –                    | L17                  | N1          |
| 3               | 214                    | I/O                 | –                | –                | –                | –                    | N18                  | N2          |
| 3               | 215                    | I/O                 | 15               | 22               | 25               | F8                   | L16                  | M1          |
| 3               | 216                    | I/O                 | –                | –                | –                | –                    | K18                  | M2          |
| 3               | 217                    | I/O                 | –                | –                | –                | –                    | J14                  | M3          |
| –               | 218                    | VCCIO               | VCCIO3           | VCCIO3           | VCCIO3           | VCCIO3               | VCCIO3               | VCCIO3      |
| 3               | 219                    | I/O                 | 14               | 21               | 24               | F7                   | J15                  | M4          |
| 3               | 220                    | I/O                 | –                | –                | –                | –                    | J18                  | L2          |
| 3               | 221                    | I/O                 | 13               | 20               | 23               | E9                   | G16                  | L3          |
| 3               | 222                    | I/O                 | –                | –                | –                | –                    | H13                  | K1          |
| 3               | 223                    | I/O                 | –                | 19               | 22               | –                    | M18                  | L4          |
| –               | 224                    | GNDINT              | GND              | GND              | GND              | GND                  | GND                  | GND         |
| 3               | 225                    | I/O                 | –                | 18               | 21               | –                    | H14                  | K2          |
| 3               | 226                    | I/O                 | –                | –                | –                | –                    | H17                  | L5          |
| 3               | 227                    | I/O                 | 11               | 17               | 20               | E10                  | H18                  | K3          |
| 3               | 228                    | I/O                 | –                | 15               | 18               | –                    | L18                  | J1          |
| 3               | 229                    | I/O                 | 10               | 14               | 17               | E11                  | G18                  | K4          |

| I/O &<br>VREF<br>Bank | Pad Number<br>Orientation | Pin/Pad<br>Function | 144-Pin<br>TQFP (1) | 208-Pin<br>PQFP (1) | 240-Pin<br>PQFP (1) | 144-Pin<br>FineLine BGA | 324-Pin<br>FineLine BGA | 356-Pin<br>BGA |
|-----------------------|---------------------------|---------------------|---------------------|---------------------|---------------------|-------------------------|-------------------------|----------------|
| –                     | 230                       | GNDIO               | GND                 | GND                 | GND                 | GND                     | GND                     | GND            |
| 3                     | 231                       | I/O                 | –                   | –                   | 16                  | –                       | G17                     | J2             |
| 3                     | 232                       | I/O                 | –                   | –                   | 15                  | –                       | G15                     | J3             |
| 3                     | 233                       | I/O                 | 9                   | 13                  | 14                  | E8                      | G14                     | K5             |
| 3                     | 234                       | I/O                 | –                   | –                   | –                   | –                       | F17                     | H2             |
| 3                     | 235                       | I/O                 | 8                   | 12                  | 13                  | D10                     | F16                     | J4             |
| –                     | 236                       | VCCINT              | VCCINT              | VCCINT              | VCCINT              | VCCINT                  | VCCINT                  | VCCINT         |
| –                     | 237                       | VCCIO               | VCCIO3              | VCCIO3              | VCCIO3              | VCCIO3                  | VCCIO3                  | VCCIO3         |
| 3                     | 238                       | I/O                 | –                   | –                   | 11                  | –                       | F18                     | G1             |
| 3                     | 239                       | I/O                 | –                   | –                   | –                   | –                       | F15                     | H3             |
| 3                     | 240                       | I/O                 | 7                   | 11                  | 10                  | D11                     | E16                     | J5             |
| 3                     | 241                       | I/O                 | –                   | –                   | –                   | –                       | C18                     | G2             |
| 3                     | 242                       | I/O                 | 6                   | 9                   | 9                   | C10                     | D16                     | H4             |
| –                     | 243                       | VCCIO               | VCCIO3              | VCCIO3              | VCCIO3              | VCCIO3                  | VCCIO3                  | VCCIO3         |
| 3                     | 244                       | I/O                 | –                   | –                   | 8                   | –                       | D18                     | F1             |
| 3                     | 245                       | I/O                 | –                   | 7                   | 7                   | –                       | E18                     | G3             |
| 3                     | 246                       | I/O                 | –                   | 6                   | 6                   | –                       | D17                     | H5             |
| 3                     | 247                       | I/O                 | –                   | –                   | –                   | –                       | C17                     | F2             |
| 3                     | 248                       | I/O                 | –                   | 5                   | 5                   | –                       | E17                     | G4             |
| –                     | 249                       | GNDINT              | GND                 | GND                 | GND                 | GND                     | GND                     | GND            |
| 3                     | 250                       | I/O                 | 3                   | 4                   | 4                   | C11                     | B18                     | F3             |
| 3                     | 251                       | I/O                 | –                   | –                   | –                   | –                       | C16                     | G5             |
| 3                     | 252                       | I/O                 | 2                   | 3                   | 3                   | C12                     | B17                     | F4             |
| 3                     | 253                       | I/O                 | –                   | 2                   | 2                   | –                       | A18                     | F5             |
| –                     | 254                       | VCCIO               | VCCIO3              | VCCIO3              | VCCIO3              | VCCIO2                  | VCCIO2                  | VCCIO2         |
| –                     | 255                       | GNDIO               | GND                 | GND                 | GND                 | GND                     | GND                     | GND            |
| 2                     | 256                       | I/O                 | 143                 | 207                 | 239                 | B11                     | A17                     | C3             |
| 2                     | 257                       | I/O                 | –                   | –                   | 238                 | –                       | B16                     | B2             |
| 2                     | 258                       | I/O                 | 142                 | 206                 | 237                 | D9                      | A16                     | D5             |
| 2                     | 259                       | I/O                 | –                   | –                   | –                   | –                       | E15                     | C4             |
| 2                     | 260                       | I/O                 | –                   | 205                 | 236                 | –                       | C15                     | B3             |
| 2                     | 261                       | I/O                 | –                   | –                   | –                   | –                       | B15                     | A2             |
| 2                     | 262                       | I/O                 | 141                 | 204                 | 235                 | C9                      | A15                     | C5             |
| 2                     | 263                       | I/O                 | –                   | –                   | –                   | –                       | F14                     | B4             |
| 2                     | 264                       | I/O                 | –                   | 203                 | 234                 | –                       | D14                     | A3             |
| 2                     | 265                       | I/O                 | 140                 | 202                 | 233                 | B10                     | C14                     | A4             |
| –                     | 266                       | VCCIO               | VCCIO2              | VCCIO2              | VCCIO2              | VCCIO2                  | VCCIO2                  | VCCIO2         |
| 2                     | 267                       | I/O                 | 139                 | 201                 | 232                 | D8                      | A14                     | B5             |
| 2                     | 268                       | I/O                 | –                   | 200                 | 231                 | –                       | B14                     | C6             |
| 2                     | 269                       | I/O                 | 138                 | 198                 | 230                 | C8                      | A13                     | A5             |
| 2                     | 270                       | I/O                 | –                   | –                   | –                   | –                       | B13                     | B6             |
| –                     | 271                       | VCCIO               | VCCIO2              | VCCIO2              | VCCIO2              | VCCIO2                  | –                       | VCCIO2         |
| 2                     | 272                       | I/O                 | 137                 | 197                 | 228                 | B9                      | C13                     | C7             |
| 2                     | 273                       | I/O                 | –                   | –                   | –                   | –                       | D13                     | A6             |
| 2                     | 274                       | I/O                 | –                   | 196                 | 227                 | –                       | B12                     | B7             |
| 2                     | 275                       | I/O                 | 136                 | 195                 | 226                 | E7                      | E13                     | C8             |
| 2                     | 276                       | I/O                 | –                   | –                   | 225                 | –                       | A12                     | A7             |

| I/O & VREF Bank | Pad Number Orientation | Pin/Pad Function  | 144-Pin TQFP (1) | 208-Pin PQFP (1) | 240-Pin PQFP (1) | 144-Pin FineLine BGA | 324-Pin FineLine BGA | 356-Pin BGA |
|-----------------|------------------------|-------------------|------------------|------------------|------------------|----------------------|----------------------|-------------|
| 2               | 277                    | I/O               | 135              | 194              | 224              | D7                   | C12                  | B8          |
| –               | 278                    | GNDIO             | GND              | GND              | GND              | GND                  | GND                  | GND         |
| 2               | 279                    | I/O               | –                | 193              | 223              | –                    | D12                  | C9          |
| 2               | 280                    | I/O               | 133              | 192              | 222              | C7                   | A11                  | A8          |
| 2               | 281                    | I/O               | –                | –                | 221              | –                    | B11                  | B9          |
| 2               | 282                    | I/O               | 132              | 191              | 220              | B8                   | A10                  | A9          |
| 2               | 283                    | I/O               | –                | –                | –                | –                    | D11                  | C10         |
| 2               | 284                    | I/O               | –                | 190              | 219              | –                    | A9                   | B10         |
| –               | 285                    | VCCIO             | VCCIO2           | VCCIO2           | VCCIO2           | VCCIO2               | VCCIO2               | VCCIO2      |
| 2               | 286                    | I/O               | –                | –                | –                | –                    | G10                  | A10         |
| 2               | 287                    | I/O               | 131              | 188              | 217              | C6                   | C11                  | C11         |
| 2               | 288                    | I/O               | –                | –                | 216              | –                    | F11                  | B11         |
| 2               | 289                    | I/O               | 130              | 187              | 215              | B7                   | E12                  | A11         |
| –               | 290                    | TRST (6)          | 129              | 186              | 214              | A10                  | B10                  | B12         |
| –               | 291                    | NCEO              | 128              | 185              | 213              | A9                   | C10                  | A12         |
| 1               | 292                    | FAST1             | 127              | 184              | 212              | A8                   | D10                  | A13         |
| –               | 293                    | GNDINT            | GND              | GND              | GND              | GND                  | GND                  | GND         |
| –               | 294                    | GNDINT            | –                | –                | –                | –                    | –                    | –           |
| –               | 295                    | VCCINT            | VCCINT           | VCCINT           | VCCINT           | VCCINT               | VCCINT               | VCCINT      |
| –               | 296                    | VCCINT            | VCCINT           | VCCINT           | VCCINT           | VCCINT               | VCCINT               | VCCINT      |
| –               | 297                    | GNDINT            | GND              | GND              | GND              | GND                  | GND                  | GND         |
| –               | 298                    | VCCIO             | VCCIO1           | VCCIO1           | VCCIO1           | VCCIO1               | VCCIO1               | VCCIO1      |
| 1               | 299                    | FAST2             | 124              | 181              | 209              | A5                   | B9                   | A15         |
| –               | 300                    | TDO (6)           | 123              | 180              | 208              | A4                   | C9                   | B15         |
| –               | 301                    | GNDINT            | –                | –                | –                | –                    | GND                  | –           |
| 1               | 302                    | I/O               | 122              | 179              | 207              | B6                   | D9                   | C15         |
| 1               | 303                    | I/O, INITDONE (4) | 121              | 178              | 206              | D6                   | E11                  | A16         |
| 1               | 304                    | I/O, RDYnBSY (2)  | 120              | 177              | 205              | E6                   | E10                  | B16         |
| 1               | 305                    | I/O               | –                | –                | –                | –                    | B8                   | A17         |
| 1               | 306                    | I/O, CLKUSR (2)   | 119              | 176              | 204              | F6                   | F10                  | C16         |
| 1               | 307                    | I/O               | –                | –                | 203              | –                    | A8                   | B17         |
| 1               | 308                    | I/O               | 118              | 175              | 202              | B5                   | A7                   | C17         |
| 1               | 309                    | I/O               | –                | 174              | 201              | –                    | E9                   | A18         |
| 1               | 310                    | I/O, DATA1 (2)    | 117              | 173              | 200              | C5                   | F9                   | B18         |
| 1               | 311                    | I/O               | –                | –                | –                | –                    | D8                   | A19         |
| –               | 312                    | GNDIO             | GND              | GND              | GND              | GND                  | GND                  | GND         |
| –               | 313                    | VCCIO             | VCCIO1           | VCCIO1           | VCCIO1           | VCCIO1               | –                    | VCCIO1      |
| 1               | 314                    | I/O               | –                | 171              | 198              | –                    | A6                   | C18         |
| 1               | 315                    | I/O               | –                | –                | 197              | –                    | B7                   | B19         |
| 1               | 316                    | I/O               | –                | 170              | 196              | –                    | C8                   | A20         |
| 1               | 317                    | I/O, DATA2 (2)    | 115              | 168              | 195              | D5                   | E8                   | B20         |
| 1               | 318                    | I/O               | –                | 167              | –                | –                    | C7                   | C19         |
| 1               | 319                    | I/O               | 114              | 166              | 194              | E5                   | A5                   | A21         |
| 1               | 320                    | I/O               | –                | 165              | 193              | –                    | B5                   | C20         |
| 1               | 321                    | I/O               | 113              | 164              | 192              | B4                   | F8                   | B21         |
| 1               | 322                    | I/O               | –                | –                | –                | –                    | D7                   | A22         |

| I/O &<br>VREF<br>Bank | Pad Number<br>Orientation | Pin/Pad<br>Function | 144-Pin<br>TQFP (1) | 208-Pin<br>PQFP (1) | 240-Pin<br>PQFP (1) | 144-Pin<br>FineLine BGA | 324-Pin<br>FineLine BGA | 356-Pin<br>BGA |
|-----------------------|---------------------------|---------------------|---------------------|---------------------|---------------------|-------------------------|-------------------------|----------------|
| 1                     | 323                       | I/O                 | –                   | –                   | 191                 | –                       | A4                      | C21            |
| –                     | 324                       | VCCIO               | VCCIO1              | VCCIO1              | VCCIO1              | VCCIO1                  | VCCIO1                  | VCCIO1         |
| 1                     | 325                       | I/O                 | –                   | –                   | 190                 | –                       | B4                      | A23            |
| 1                     | 326                       | I/O, DATA3 (2)      | 112                 | 163                 | 189                 | C4                      | B6                      | B22            |
| 1                     | 327                       | I/O                 | –                   | 162                 | 187                 | –                       | A3                      | B23            |
| 1                     | 328                       | I/O                 | –                   | 161                 | 186                 | –                       | C6                      | C22            |
| 1                     | 329                       | I/O                 | –                   | –                   | –                   | –                       | D6                      | A24            |
| 1                     | 330                       | I/O, DATA4 (2)      | 111                 | 160                 | 185                 | C3                      | C5                      | A25            |
| 1                     | 331                       | I/O                 | –                   | 159                 | 184                 | –                       | E7                      | B24            |
| 1                     | 332                       | I/O                 | 110                 | 158                 | 183                 | A3                      | B3                      | C23            |
| 1                     | 333                       | I/O                 | –                   | –                   | 182                 | –                       | A2                      | B25            |
| 1                     | 334                       | I/O, DATA5 (2)      | 109                 | 157                 | 181                 | B3                      | B2                      | C24            |
| –                     | 335                       | GNDIO               | GND                 | GND                 | GND                 | GND                     | GND                     | GND            |
| –                     | 336                       | –                   | –                   | –                   | –                   | –                       | –                       | –              |

| Pin Name                   | 144-Pin TQFP<br>(1)                | 208-Pin PQFP<br>(1)                     | 240-Pin PQFP<br>(1)                     | 144-Pin<br>FineLine BGA                 | 324-Pin<br>FineLine BGA                                              | 356-Pin<br>FineLine BGA                                                                     |
|----------------------------|------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|----------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| MSEL0 (6)                  | 18                                 | 25                                      | 29                                      | F11                                     | J17                                                                  | P1                                                                                          |
| MSEL1 (6)                  | 19                                 | 26                                      | 30                                      | F10                                     | J16                                                                  | P2                                                                                          |
| NSTATUS (6)                | 57                                 | 82                                      | 92                                      | M4                                      | U9                                                                   | AF15                                                                                        |
| NCONFIG (6)                | 22                                 | 29                                      | 33                                      | G10                                     | K17                                                                  | R1                                                                                          |
| DCLK (6)                   | 93                                 | 132                                     | 152                                     | G2                                      | J3                                                                   | N25                                                                                         |
| CONF_DONE (6)              | 58                                 | 83                                      | 93                                      | M3                                      | U8                                                                   | AE15                                                                                        |
| INIT_DONE (4)              | 121                                | 178                                     | 206                                     | D6                                      | E11                                                                  | A16                                                                                         |
| nCE (6)                    | 91                                 | 130                                     | 150                                     | H5                                      | K2                                                                   | P26                                                                                         |
| nCEO (6)                   | 128                                | 185                                     | 213                                     | A9                                      | C10                                                                  | A12                                                                                         |
| nWS (2)                    | 103                                | 145                                     | 164                                     | C2                                      | K5                                                                   | H22                                                                                         |
| nRS (2)                    | 102                                | 142                                     | 161                                     | D2                                      | J6                                                                   | H24                                                                                         |
| nCS (2)                    | 101                                | 141                                     | 160                                     | D3                                      | H5                                                                   | J24                                                                                         |
| CS (2)                     | 98                                 | 138                                     | 157                                     | E3                                      | M2                                                                   | K25                                                                                         |
| RDYnBSY (2)                | 120                                | 177                                     | 205                                     | E6                                      | E10                                                                  | B16                                                                                         |
| CLKUSR (2)                 | 119                                | 176                                     | 204                                     | F6                                      | F10                                                                  | C16                                                                                         |
| DATA7 (2)                  | 104                                | 146                                     | 166                                     | C1                                      | H6                                                                   | G23                                                                                         |
| DATA6 (2)                  | 105                                | 150                                     | 169                                     | B2                                      | G4                                                                   | F24                                                                                         |
| DATA5 (2)                  | 109                                | 157                                     | 181                                     | B3                                      | B2                                                                   | C24                                                                                         |
| DATA4 (2)                  | 111                                | 160                                     | 185                                     | C3                                      | C5                                                                   | A25                                                                                         |
| DATA3 (2)                  | 112                                | 163                                     | 189                                     | C4                                      | B6                                                                   | B22                                                                                         |
| DATA2 (2)                  | 115                                | 168                                     | 195                                     | D5                                      | E8                                                                   | B20                                                                                         |
| DATA1 (2)                  | 117                                | 173                                     | 200                                     | C5                                      | F9                                                                   | B18                                                                                         |
| DATA0 (6), (11)            | 94                                 | 133                                     | 153                                     | G3                                      | J2                                                                   | M26                                                                                         |
| TDI (6)                    | 90                                 | 129                                     | 149                                     | H2                                      | K3                                                                   | P25                                                                                         |
| TDO (6)                    | 123                                | 180                                     | 208                                     | A4                                      | C9                                                                   | B15                                                                                         |
| TCK (6)                    | 52                                 | 76                                      | 87                                      | M9                                      | U10                                                                  | AE12                                                                                        |
| TMS (6)                    | 51                                 | 75                                      | 86                                      | M10                                     | U11                                                                  | AF11                                                                                        |
| TRST (6)                   | 129                                | 186                                     | 214                                     | A10                                     | B10                                                                  | B12                                                                                         |
| Dedicated Fast<br>I/O Pins | 53, 56, 124, 127                   | 77, 81, 181, 184                        | 88, 91, 209, 212                        | A8, A5, M8, M5                          | D10, B9, T10,<br>T9                                                  | A13, A15, AF12,<br>AE14                                                                     |
| CLK1p                      | 20                                 | 27                                      | 31                                      | F9                                      | K16                                                                  | P3                                                                                          |
| CLK2p                      | 92                                 | 131                                     | 151                                     | G7                                      | J4                                                                   | N26                                                                                         |
| CLK3p                      | 23                                 | 31                                      | 34                                      | G8                                      | H15                                                                  | R4                                                                                          |
| CLK4p                      | 95                                 | 134                                     | 154                                     | F2                                      | L2                                                                   | M23                                                                                         |
| LOCK2 (9)                  | 80                                 | 119                                     | 138                                     | K3                                      | N2                                                                   | T24                                                                                         |
| LOCK4 (9)                  | 78                                 | 116                                     | 135                                     | L2                                      | R3                                                                   | V25                                                                                         |
| CLKLK_ENA (6),<br>(10)     | 21                                 | 28                                      | 32                                      | G9                                      | K12                                                                  | P4                                                                                          |
| CLKLK_OUT2p<br>(8)         | 81                                 | 120                                     | 139                                     | J2                                      | M3                                                                   | R23                                                                                         |
| CLKLK_FB2p                 | 96                                 | 135                                     | 155                                     | F4                                      | N4                                                                   | L25                                                                                         |
| DEV_CLRn (4)               | 97                                 | 137                                     | 156                                     | E4                                      | L5                                                                   | L23                                                                                         |
| DEV_OE (4)                 | 84                                 | 124                                     | 143                                     | J3                                      | L4                                                                   | R26                                                                                         |
| VCCINT                     | 1, 16, 36, 55,<br>73, 86, 108, 125 | 1, 23, 52, 79,<br>105, 126, 156,<br>182 | 1, 27, 60, 90,<br>122, 145, 179,<br>210 | A7, B1, B12, F1,<br>F12, H1, H12,<br>M7 | G6, G11, F7,<br>H9, H12, J8,<br>K11, L7, L10,<br>M8, M13, N5,<br>N12 | A14, AB25, AB3,<br>AF13, AF14,<br>B14, E23, E1,<br>H1, J23, L1,<br>M25, R2, T22,<br>U4, Y26 |

| Pin Name                    | 144-Pin TQFP<br>(1)                                           | 208-Pin PQFP<br>(1)                                                                | 240-Pin PQFP<br>(1)                                                                      | 144-Pin<br>FineLine BGA                                      | 324-Pin<br>FineLine BGA                                                                                                                | 356-Pin<br>FineLine BGA                                                                                                                                                           |
|-----------------------------|---------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|--------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| VCCIO1                      | 116                                                           | 172                                                                                | 199                                                                                      | A2                                                           | E6, G8                                                                                                                                 | C14, A26                                                                                                                                                                          |
| VCCIO2                      | 144                                                           | 208                                                                                | 229                                                                                      | A11                                                          | F12, H10                                                                                                                               | A1, C12                                                                                                                                                                           |
| VCCIO3                      | 5                                                             | 8,189                                                                              | 12                                                                                       | D12                                                          | J11, G13                                                                                                                               | M5, C1                                                                                                                                                                            |
| VCCIO4                      | 45                                                            | 80                                                                                 | 67                                                                                       | K12                                                          | L12, N14                                                                                                                               | AD1, P5                                                                                                                                                                           |
| VCCIO5                      | 28                                                            | 42,53                                                                              | 45                                                                                       | M11                                                          | M11, P13                                                                                                                               | AD12, AF1                                                                                                                                                                         |
| VCCIO6                      | 89                                                            | 115                                                                                | 148                                                                                      | M2                                                           | L9, N7, P6                                                                                                                             | AF26, AD14                                                                                                                                                                        |
| VCCIO7                      | 61                                                            | 86                                                                                 | 97,120                                                                                   | K1                                                           | K8, M6                                                                                                                                 | P22, AD26                                                                                                                                                                         |
| VCCIO8                      | 107                                                           | 136                                                                                | 177                                                                                      | D1                                                           | F5, H7                                                                                                                                 | C26, M22                                                                                                                                                                          |
| VCC_CLKL2 (3)               | 85                                                            | 125                                                                                | 144                                                                                      | G6                                                           | J7                                                                                                                                     | P23                                                                                                                                                                               |
| VCC_CLKL4 (3)               | 100                                                           | 140                                                                                | 159                                                                                      | D4                                                           | K6                                                                                                                                     | K24                                                                                                                                                                               |
| VCC_CKOUT2<br>(7)           | 83                                                            | 123                                                                                | 142                                                                                      | H4                                                           | P3                                                                                                                                     | R25                                                                                                                                                                               |
| GND                         | 4, 12, 17, 34,<br>42, 54, 72, 74,<br>77, 87, 106,<br>126, 134 | 10, 16, 24, 39,<br>43, 64, 78, 95,<br>114, 118, 127,<br>143, 149, 169,<br>183, 199 | 19, 26, 28, 42,<br>56, 78, 89, 108,<br>132, 137, 146,<br>162, 165, 188,<br>211, 218, 240 | A6, E1, E12, G1,<br>G12, J1, J12,<br>M6, A1, A12, M1,<br>M12 | D4, D15, E5,<br>E14, F6, F13,<br>G7, G9, G12,<br>H8, H11, J9,<br>J10, K9, K10,<br>L8, L11, M7,<br>M12, N6, N13,<br>P5, P14, R4,<br>R15 | AB4, AB5, AC3,<br>AC22, AC23,<br>AC24, AD2,<br>AD13, AD25,<br>AE1, AE13,<br>AE26, B1, B13,<br>B26, C2, C13,<br>C25, D3, D4,<br>D22, D23, D24,<br>E5, N3, N4, N5,<br>N22, N23, N24 |
| GND_CLKL2 (3)               | 88                                                            | 128                                                                                | 147                                                                                      | G5                                                           | K7                                                                                                                                     | P24                                                                                                                                                                               |
| GND_CLKL4 (3)               | 99                                                            | 139                                                                                | 158                                                                                      | E2                                                           | L6                                                                                                                                     | L22                                                                                                                                                                               |
| GND_CKOUT2<br>(7)           | 82                                                            | 122                                                                                | 141                                                                                      | H3                                                           | P2                                                                                                                                     | R24                                                                                                                                                                               |
| No Connect<br>(N.C.)        | —                                                             | —                                                                                  | —                                                                                        | —                                                            | —                                                                                                                                      | AA26, AA25,<br>AA3, AA2, AA1,<br>AA24, AA23,<br>AB26, AB2, AB1,<br>AB24, AB23,<br>AB22, AC26,<br>AC25, AC2, AC1,<br>D2, D1, E4, E3,<br>E2, J25, K26,<br>K23                       |
| Total User I/O<br>Pins (12) | 92                                                            | 151                                                                                | 183                                                                                      | 93                                                           | 246                                                                                                                                    | 246                                                                                                                                                                               |

Notes:

- (1) For the 144-pin, 208-pin, and 240-pin PQFP packages, four unique VCCIO levels are supported. The VCCIO pins for I/O banks 1 and 8 must be at the same level; the VCCIO pins for banks 6 and 7 must be at the same level; the VCCIO pins for I/O banks 2 and 3 must be at the same level. However, unique VREF settings are supported for each of the eight I/O banks.
- (2) This pin can be used as a user I/O pin after configuration.
- (3) This pin is the power or ground for the ClockLock and ClockBoost circuitry. To ensure noise resistance, the power and ground supply to the ClockLock and ClockBoost circuitry should be isolated from the power and ground to the rest of the device. VCC\_CKCLK has the same voltage specifications as the VCCINT and should be connected to a 1.8-V power supply. If the ClockLock or ClockBoost circuitry is not used, this power or ground pin should be connected to VCCINT or GNDINT, respectively.
- (4) This pin can be used as a user I/O pin if it is not used for its device-wide or configuration function.
- (5) This pin is the complementary signal for the LVDS pair on dedicated inputs and outputs that can be configured for the LVDS standard. If not used for the LVDS pair, these pins are regular I/O pins. Pins with the "n" suffix carry the negative signal for the LVDS channel. Pins with a "p" suffix carry the positive signal for the LVDS channel.
- (6) This pin is a dedicated pin; it is not available as a user I/O pin.
- (7) This pin is the power or ground for the external output of a PLL. These pins should be set to the VCCIO level/standard desired for the external clock output. To ensure noise resistance, the power and ground supply to the PLL external output should be isolated from the power and ground to the rest of the VCCIO and GNDIO pins. If the PLL or external output is not used, this power or ground pin should be connected to VCCIO or GNDIO, respectively.
- (8) The CLKLK\_OUT pin is powered by the VCC\_CKOUT and GND\_CKOUT pins.
- (9) This pin shows the status of the ClockLock and ClockBoost circuitry. When the ClockLock and ClockBoost circuitry is locked to the incoming clock and generates an internal clock, LOCK is driven high. LOCK remains high if a periodic clock stops clocking. The LOCK function is optional; if the LOCK output is not used, this pin is a user I/O pin.
- (10) This pin is the active high enable pin for all of the PLL circuits in the device. When de-asserted, all PLLs are reset to their default, unlocked state and will stop clocking. Once re-asserted, the PLLs will lock again and start clocking. If this pin function is not needed, the pin should be connected to VCCINT.
- (11) This pin is tri-stated in user mode.
- (12) The user I/O pin count includes dedicated inputs and dedicated clock inputs. It does not include the dedicated clock feedback and output pins.

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