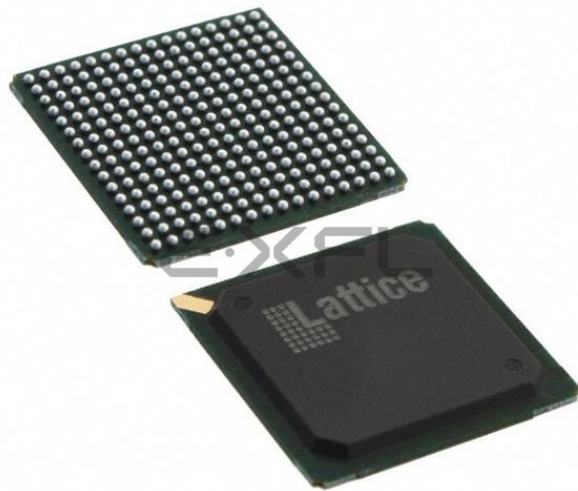




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Understanding [Embedded - FPGAs \(Field Programmable Gate Array\)](#)

Embedded - FPGAs, or Field Programmable Gate Arrays, are advanced integrated circuits that offer unparalleled flexibility and performance for digital systems. Unlike traditional fixed-function logic devices, FPGAs can be programmed and reprogrammed to execute a wide array of logical operations, enabling customized functionality tailored to specific applications. This reprogrammability allows developers to iterate designs quickly and implement complex functions without the need for custom hardware.

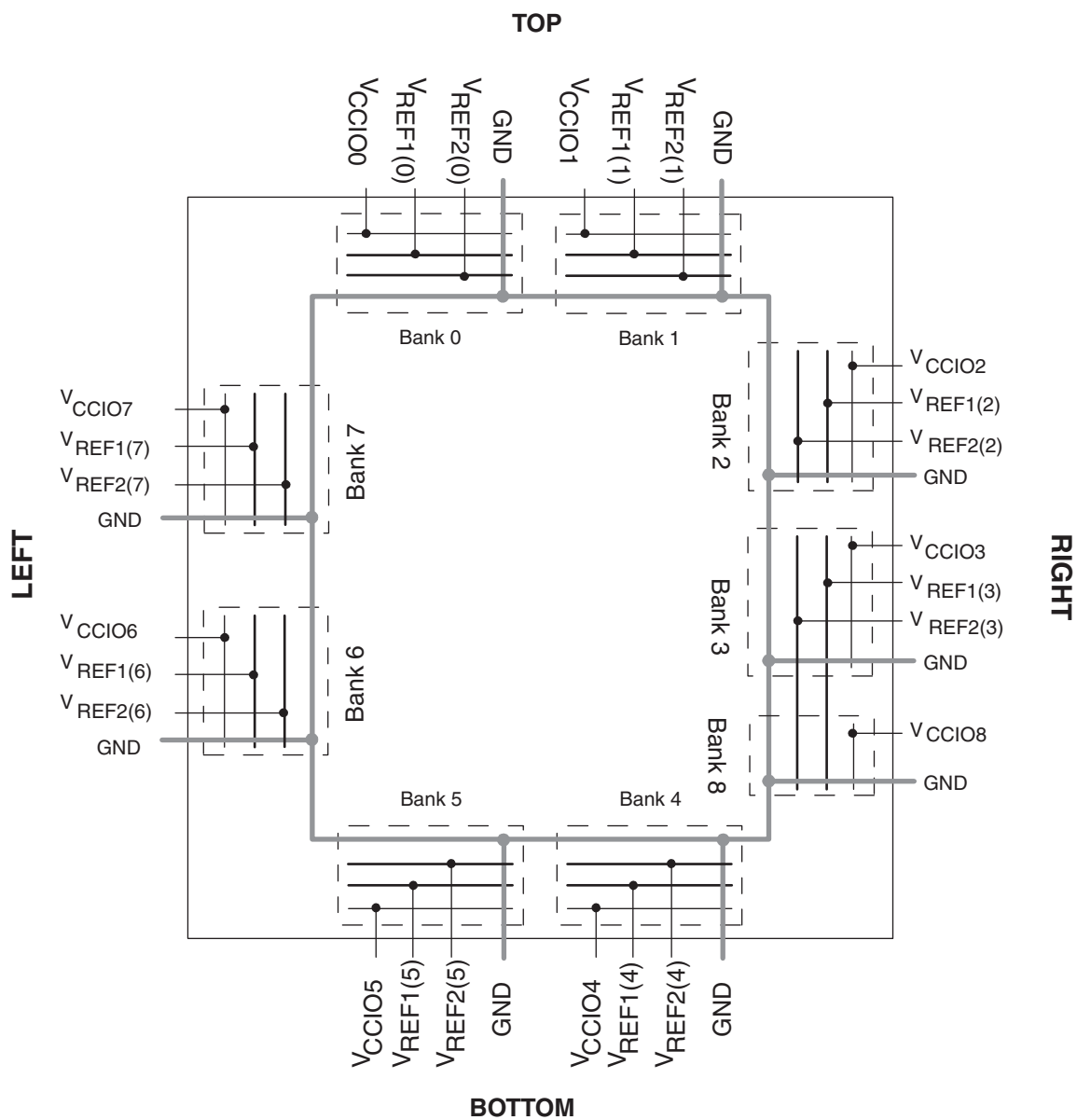
Applications of Embedded - FPGAs

The versatility of Embedded - FPGAs makes them indispensable in numerous fields. In telecommunications.

Details

Product Status	Obsolete
Number of LABs/CLBs	4250
Number of Logic Elements/Cells	34000
Total RAM Bits	2151424
Number of I/O	140
Number of Gates	-
Voltage - Supply	1.14V ~ 1.26V
Mounting Type	Surface Mount
Operating Temperature	0°C ~ 85°C (TJ)
Package / Case	256-BGA
Supplier Device Package	256-FPBGA (17x17)
Purchase URL	https://www.e-xfl.com/product-detail/lattice-semiconductor/lfe2m35e-5f256c

Figure 2-37. LatticeECP2 Banks



LatticeECP2 Supply Current (Standby)^{1, 2, 3, 4}
Over Recommended Operating Conditions

Symbol	Parameter	Device	Typ. ⁵	Units
I_{CC}	Core Power Supply Current	ECP2-6	10	mA
		ECP2-12	20	mA
		ECP2-20	30	mA
		ECP2-35	50	mA
		ECP2-50	70	mA
		ECP2-70	100	mA
I_{CCAUX}	Auxiliary Power Supply Current	ECP2-6	24	mA
		ECP2-12	24	mA
		ECP2-20	24	mA
		ECP2-35	24	mA
		ECP2-50	24	mA
		ECP2-70	24	mA
I_{CCGPLL}	GPLL Power Supply Current (per GPLL)	ECP2-35, -50, -70 Only	0.5	mA
I_{CCSPLL}	GPLL Power Supply Current (per SPLL)	ECP2-35, -50, -70 Only	0.5	mA
I_{CCIO}	Bank Power Supply Current (Per Bank)	ECP2-6	2	mA
		ECP2-12	2	mA
		ECP2-20	2	mA
		ECP2-35	2	mA
		ECP2-50	2	mA
		ECP2-70	2	mA
I_{CCJ}	VCCJ Power Supply Current	All Devices	3	mA

1. For further information about supply current, please see the list of additional technical documentation at the end of this data sheet.
2. Assumes all outputs are tristated, all inputs are configured as LVCMOS and held at the V_{CCIO} or GND.
3. Frequency 0MHz.
4. Pattern represents a "blank" configuration data file.
5. $T_J = 25^{\circ}\text{C}$, power supplies at normal voltage.

sys/I/O Recommended Operating Conditions

Standard	V _{CCIO}			V _{REF} (V)		
	Min.	Typ.	Max.	Min.	Typ.	Max.
LVC MOS 3.3 ²	3.135	3.3	3.465	—	—	—
LVC MOS 2.5 ²	2.375	2.5	2.625	—	—	—
LVC MOS 1.8	1.71	1.8	1.89	—	—	—
LVC MOS 1.5	1.425	1.5	1.575	—	—	—
LVC MOS 1.2 ²	1.14	1.2	1.26	—	—	—
LVTTL ²	3.135	3.3	3.465	—	—	—
PCI	3.135	3.3	3.465	—	—	—
SSTL18 ² Class I, II	1.71	1.8	1.89	0.833	0.9	0.969
SSTL2 ² Class I, II	2.375	2.5	2.625	1.15	1.25	1.35
SSTL3 ² Class I, II	3.135	3.3	3.465	1.3	1.5	1.7
HSTL ² 15 Class I	1.425	1.5	1.575	0.68	0.75	0.9
HSTL ² 18 Class I, II	1.71	1.8	1.89	0.816	0.9	1.08
LVDS ²	2.375	2.5	2.625	—	—	—
MLVDS25 ¹	2.375	2.5	2.625	—	—	—
LVPECL33 ^{1,2}	3.135	3.3	3.465	—	—	—
BLVDS25 ^{1,2}	2.375	2.5	2.625	—	—	—
RSDS ^{1,2}	2.375	2.5	2.625	—	—	—
SSTL18D_I ² , II ²	1.71	1.8	1.89	—	—	—
SSTL25D_I ² , II ²	2.375	2.5	2.625	—	—	—
SSTL33D_I ² , II ²	3.135	3.3	3.465	—	—	—
HSTL15D_I ²	1.425	1.5	1.575	—	—	—
HSTL18D_I ² , II ²	1.71	1.8	1.89	—	—	—

1. Inputs on chip. Outputs are implemented with the addition of external resistors.

2. Input on this standard does not depend on the value of V_{CCIO}.

LatticeECP2/M External Switching Characteristics⁹

Over Recommended Operating Conditions

Parameter	Description	Device	-7		-6		-5		Units
			Min.	Max.	Min.	Max.	Min.	Max.	
General I/O Pin Parameters (using Primary Clock without PLL) ¹									
t _{CO}	Clock to Output - PIO Output Register	LFE2-6	—	3.50	—	3.90	—	4.20	ns
		LFE2-12	—	3.50	—	3.90	—	4.20	ns
		LFE2-20	—	3.50	—	3.90	—	4.20	ns
		LFE2-35	—	3.50	—	3.90	—	4.20	ns
		LFE2-50	—	3.50	—	3.90	—	4.20	ns
		LFE2-70	—	3.70	—	4.10	—	4.40	ns
		LFE2M20	—	3.90	—	4.30	—	4.70	ns
		LFE2M35	—	3.90	—	4.30	—	4.70	ns
		LFE2M50	—	4.50	—	5.00	—	5.40	ns
		LFE2M70	—	4.50	—	5.00	—	5.40	ns
		LFE2M100	—	4.50	—	5.00	—	5.40	ns
t _{SU}	Clock to Data Setup - PIO Input Register	LFE2-6	0.00	—	0.00	—	0.00	—	ns
		LFE2-12	0.00	—	0.00	—	0.00	—	ns
		LFE2-20	0.00	—	0.00	—	0.00	—	ns
		LFE2-35	0.00	—	0.00	—	0.00	—	ns
		LFE2-50	0.00	—	0.00	—	0.00	—	ns
		LFE2-70	0.00	—	0.00	—	0.00	—	ns
		LFE2M20	0.00	—	0.00	—	0.00	—	ns
		LFE2M35	0.00	—	0.00	—	0.00	—	ns
		LFE2M50	0.00	—	0.00	—	0.00	—	ns
		LFE2M70	0.00	—	0.00	—	0.00	—	ns
		LFE2M100	0.00	—	0.00	—	0.00	—	ns
t _H	Clock to Data Hold - PIO Input Register	LFE2-6	1.40	—	1.70	—	1.90	—	ns
		LFE2-12	1.40	—	1.70	—	1.90	—	ns
		LFE2-20	1.40	—	1.70	—	1.90	—	ns
		LFE2-35	1.40	—	1.70	—	1.90	—	ns
		LFE2-50	1.40	—	1.70	—	1.90	—	ns
		LFE2-70	1.40	—	1.70	—	1.90	—	ns
		LFE2M20	1.40	—	1.70	—	1.90	—	ns
		LFE2M35	1.40	—	1.70	—	1.90	—	ns
		LFE2M50	1.80	—	2.10	—	2.30	—	ns
		LFE2M70	1.80	—	2.10	—	2.30	—	ns
		LFE2M100	1.80	—	2.10	—	2.30	—	ns

LatticeECP2 Pin Information Summary, LFE2-50 and LFE2-70

Pin Type		LFE2-50		LFE2-70	
		484 fpBGA	672 fpBGA	672 fpBGA	900 fpBGA
Single Ended User I/O		339	500	500	583
Differential Pair User I/O		169	249	249	290
Configuration	TAP Pins	5	5	5	5
	Muxed Pins	14	14	14	14
	Dedicated Pins (Non TAP)	7	7	7	7
Non Configuration	Muxed Pins	68	79	79	89
	Dedicated Pins	3	3	3	3
VCC		16	20	20	26
VCCAUX		16	16	16	17
VCCPLL		4	4	2	4
VCCIO	Bank0	4	5	5	6
	Bank1	4	5	5	6
	Bank2	4	5	5	6
	Bank3	4	5	5	6
	Bank4	4	5	5	6
	Bank5	4	5	5	6
	Bank6	4	5	5	6
	Bank7	4	5	5	6
	Bank8	2	2	2	2
GND, GND0 to GND7		60	72	72	104
NC		0	3	5	101
Single Ended/ Differential I/O Pairs per Bank (including emulated with resistors)	Bank0	50/25	67/33	67/33	84/42
	Bank1	46/23	66/33	66/33	76/38
	Bank2	38/19	56/28	56/28	74/37
	Bank3	22/11	48/24	48/24	48/24
	Bank4	46/23	62/31	62/31	72/35
	Bank5	46/23	68/34	68/34	80/40
	Bank6	40/20	64/32	64/32	64/32
	Bank7	37/18	55/27	55/27	71/35
	Bank8	14/7	14/7	14/7	14/7
True LVDS I/O Pairs per Bank	Bank0 (Top Edge)	0	0	0	0
	Bank1 (Top Edge)	0	0	0	0
	Bank2 (Right Edge)	9	13	13	18
	Bank3 (Right Edge)	5	12	12	12
	Bank4 (Bottom Edge)	0	0	0	0
	Bank5 (Bottom Edge)	0	0	0	0
	Bank6 (Left Edge)	10	16	16	16
	Bank7 (Left Edge)	8	12	12	16
	Bank8 (Right Edge)	0	0	0	0

LFE2-12E/SE and LFE2-20E/SE Logic Signal Connections: 208 PQFP (Cont.)

LFE2-12E/SE					LFE2-20E/SE				
Pin Number	Pin/Pad Function	Bank	Dual Function	Differential	Pin/Pad Function	Bank	Dual Function	Differential	
46	PL28B	6	LDQ28	C (LVDS)*	PL42B	6	LDQ42	C (LVDS)*	
47	PL30A	6	LDQ28		PL44A	6	LDQ42		
48	TCK	-			TCK	-			
49	TDI	-			TDI	-			
50	TDO	-			TDO	-			
51	VCCJ	-			VCCJ	-			
52	TMS	-			TMS	-			
53	PB2A	5	VREF2_5/BDQ6	T	PB2A	5	VREF2_5/BDQ6	T	
54	PB2B	5	VREF1_5/BDQ6	C	PB2B	5	VREF1_5/BDQ6	C	
55	VCCIO5	5			VCCIO5	5			
56	PB6A	5	BDQS6	T	PB6A	5	BDQS6	T	
57	PB6B	5	BDQ6	C	PB6B	5	BDQ6	C	
58	PB8A	5	BDQ6	T	PB8A	5	BDQ6	T	
59	PB8B	5	BDQ6	C	PB8B	5	BDQ6	C	
60	GND	-			GND	-			
61	PB12A	5	BDQ15	T	PB12A	5	BDQ15	T	
62	PB12B	5	BDQ15	C	PB12B	5	BDQ15	C	
63	VCCIO5	5			VCCIO5	5			
64	PB16A	5	BDQ15	T	PB16A	5	BDQ15	T	
65	PB16B	5	BDQ15	C	PB16B	5	BDQ15	C	
66	PB18A	5	BDQ15	T	PB18A	5	BDQ15	T	
67	PB18B	5	BDQ15	C	PB18B	5	BDQ15	C	
68	GND	-			GND	-			
69	PB20A	5	BDQ24	T	PB30A	5	BDQ33	T	
70	VCCAUX	-			VCCAUX	-			
71	PB20B	5	BDQ24	C	PB30B	5	BDQ33	C	
72	PB22A	5	BDQ24	T	PB32A	5	BDQ33	T	
73	PB22B	5	BDQ24	C	PB32B	5	BDQ33	C	
74	VCC	-			VCC	-			
75	PB26A	5	PCLKT5_0/BDQ24	T	PB35A	5	PCLKT5_0/BDQ33	T	
76	PB26B	5	PCLKC5_0/BDQ24	C	PB35B	5	PCLKC5_0/BDQ33	C	
77	GND	-			GND	-			
78	PB31A	4	PCLKT4_0/BDQ33	T	PB40A	4	PCLKT4_0/BDQ42	T	
79	PB31B	4	PCLKC4_0/BDQ33	C	PB40B	4	PCLKC4_0/BDQ42	C	
80	VCC	-			VCC	-			
81	GND	-			GND	-			
82	PB34A	4	BDQ33	T	PB42A	4	BDQS42	T	
83	PB34B	4	BDQ33	C	PB42B	4	BDQ42	C	
84	PB36A	4	BDQ33	T	PB44A	4	BDQ42	T	
85	PB36B	4	BDQ33	C	PB44B	4	BDQ42	C	
86	VCCAUX	-			VCCAUX	-			
87	PB40A	4	BDQ42	T	PB50A	4	BDQ51	T	
88	PB40B	4	BDQ42	C	PB50B	4	BDQ51	C	
89	GND	-			GND	-			
90	PB42A	4	BDQS42	T	PB52A	4	BDQ51	T	
91	PB42B	4	BDQ42	C	PB52B	4	BDQ51	C	

LFE2-20E/SE Logic Signal Connections: 256 fpBGA (Cont.)

LFE2-20E/SE					
Ball Number	Ball Number	Ball/Pad Function	Bank	Dual Function	Differential
J1	J1	PL31A	6	LLM0_GPLLT_FB_A/LDQ34	T
K3	K3	PL30B	6	LLM0_GPLLC_IN_A**/LDQ34	C (LVDS)*
VCCIO	VCCIO	VCCIO6	6		
J2	J2	PL31B	6	LLM0_GPLLC_FB_A/LDQ34	C
GND	GND	GNDIO6	-		
L2	L2	PL38A	6	LDQ42	T (LVDS)*
K2	K2	PL39A	6	LDQ42	T
L3	L3	PL38B	6	LDQ42	C (LVDS)*
K1	K1	PL39B	6	LDQ42	C
VCCIO	VCCIO	VCCIO6	6		
L4	L4	PL40A	6	LDQ42	T (LVDS)*
L1	L1	PL41A	6	LDQ42	T
L5	L5	PL40B	6	LDQ42	C (LVDS)*
M1	M1	PL41B	6	LDQ42	C
GND	GND	GNDIO6	-		
N1	N1	PL43A	6	LDQ42	T
N2	N2	PL42A	6	LDQS42	T (LVDS)*
P1	P1	PL43B	6	LDQ42	C
VCCIO	VCCIO	VCCIO6	6		
P2	P2	PL42B	6	LDQ42	C (LVDS)*
R1	R1	PL44A	6	LDQ42	T (LVDS)*
GND	GND	GNDIO6	-		
R2	R2	PL44B	6	LDQ42	C (LVDS)*
N4	N4	TDI	-		
M4	M4	TCK	-		
P3	P3	TDO	-		
N3	N3	TMS	-		
K7	K7	VCCJ	-		
M5	M5	PB2A	5	VREF2_5/BDQ6	T
K6	K6	PB3A	5	BDQ6	
M6	M6	PB2B	5	VREF1_5/BDQ6	C
R3	R3	PB5A	5	BDQ6	T
P4	P4	PB5B	5	BDQ6	C
-	VCC	VCCIO	5		
-	GND	GNDIO5	5		
N5	N5	PB30A	5	BDQ33	T
N6	N6	PB30B	5	BDQ33	C
T2	T2	PB31A	5	BDQ33	T
P6	P6	PB32A	5	BDQ33	T
VCCIO	VCCIO	VCCIO5	5		
T3	T3	PB31B	5	BDQ33	C
R6	R6	PB32B	5	BDQ33	C

LFE2-35E/SE and LFE2-50E/SE Logic Signal Connections: 484 fpBGA (Cont.)

LFE2-35E/SE					LFE2-50E/SE			
Ball Number	Ball/Pad Function	Bank	Dual Function	Differential	Ball/Pad Function	Bank	Dual Function	Differential
G17	PR13B	2	RDQ14	C	PR15B	2	RDQ16	C
F19	PR13A	2	RDQ14	T	PR15A	2	RDQ16	T
E20	PR12B	2	RDQ14	C (LVDS)*	PR14B	2	RDQ16	C (LVDS)*
D20	PR12A	2	RDQ14	T (LVDS)*	PR14A	2	RDQ16	T (LVDS)*
VCCIO	VCCIO2	2			VCCIO	2		
F18	PR11B	2	RDQ14	C	PR13B	2	RDQ16	C
F16	PR11A	2	RDQ14	T	PR13A	2	RDQ16	T
C21	PR10B	2	RDQ14	C (LVDS)*	PR12B	2	RDQ16	C (LVDS)*
C22	PR10A	2	RDQ14	T (LVDS)*	PR12A	2	RDQ16	T (LVDS)*
VCCIO	VCCIO2	2			VCCIO	2		
GNDIO	GNDIO2	-			GNDIO2	-		
D19	PR2B	2	VREF2_2/RDQ6	C (LVDS)*	PR2B	2	VREF2_2	C (LVDS)*
E19	PR2A	2	VREF1_2/RDQ6	T (LVDS)*	PR2A	2	VREF1_2	T (LVDS)*
B21	PT73B	1	VREF2_1	C	PT82B	1	VREF2_1	C
GNDIO	GNDIO1	-			GNDIO1	-		
B22	PT73A	1	VREF1_1	T	PT82A	1	VREF1_1	T
C20	PT72B	1		C	PT81B	1		C
C19	PT72A	1		T	PT81A	1		T
D18	PT71B	1		C	PT80B	1		C
VCCIO	VCCIO1	1			VCCIO	1		
E18	PT71A	1		T	PT80A	1		T
B20	PT70B	1		C	PT79B	1		C
A19	PT70A	1		T	PT79A	1		T
D17	PT69B	1		C	PT78B	1		C
C18	PT69A	1		T	PT78A	1		T
A21	PT68B	1		C	PT77B	1		C
GNDIO	GNDIO1	-			GNDIO1	-		
A20	PT68A	1		T	PT77A	1		T
A18	PT67B	1		C	PT76B	1		C
VCCIO	VCCIO1	1			VCCIO	1		
B18	PT67A	1		T	PT76A	1		T
G16	PT66B	1		C	PT75B	1		C
G15	PT66A	1		T	PT75A	1		T
D16	PT65B	1		C	PT74B	1		C
E16	PT65A	1		T	PT74A	1		T
GNDIO	GNDIO1	-			GNDIO1	-		
VCCIO	VCCIO1	1			VCCIO	1		
C17	PT55B	1		C	PT64B	1		C
GNDIO	GNDIO1	-			GNDIO1	-		
C16	PT55A	1		T	PT64A	1		T
B17	PT54B	1		C	PT63B	1		C
B16	PT54A	1		T	PT63A	1		T
A17	PT53B	1		C	PT62B	1		C
VCCIO	VCCIO1	1			VCCIO	1		
A16	PT53A	1		T	PT62A	1		T
C15	PT52B	1		C	PT61B	1		C

LFE2-20E/SE and LFE2-35E/SE Logic Signal Connections: 672 fpBGA (Cont.)

LFE2-20E/20SE					LFE2-35E/35SE			
Ball Number	Ball/Pad Function	Bank	Dual Function	Differential	Ball/Pad Function	Bank	Dual Function	Differential
G24	PR6B	2	RDQ8	C (LVDS)*	PR12B	2	RDQ14	C (LVDS)*
G23	PR6A	2	RDQ8	T (LVDS)*	PR12A	2	RDQ14	T (LVDS)*
VCCIO	VCCIO2	2			VCCIO2	2		
K19	PR5B	2	RDQ8	C	PR11B	2	RDQ14	C
J19	PR5A	2	RDQ8	T	PR11A	2	RDQ14	T
D26	PR4B	2	RDQ8	C (LVDS)*	PR10B	2	RDQ14	C (LVDS)*
C26	PR4A	2	RDQ8	T (LVDS)*	PR10A	2	RDQ14	T (LVDS)*
F22	NC	-			PR9B	2	RDQ6	C
E24	NC	-			PR9A	2	RDQ6	T
GND	GNDIO2	-			GNDIO2	-		
D25	NC	-			PR8B	2	RDQ6	C (LVDS)*
C25	NC	-			PR8A	2	RDQ6	T (LVDS)*
D24	NC	-			PR7B	2	RDQ6	C
B25	NC	-			PR7A	2	RDQ6	T
VCCIO	VCCIO2	2			VCCIO2	2		
H21	NC	-			PR6B	2	RDQ6	C (LVDS)*
G22	NC	-			PR6A	2	RDQS6	T (LVDS)*
B24	NC	-			PR5B	2	RDQ6	C
GND	GNDIO2	-			GNDIO2	-		
C24	NC	-			PR5A	2	RDQ6	T
D23	NC	-			PR4B	2	RDQ6	C (LVDS)*
C23	NC	-			PR4A	2	RDQ6	T (LVDS)*
G21	PR3B	2		C	PR3B	2	RDQ6	C
VCCIO	VCCIO2	2			VCCIO2	2		
H20	PR3A	2		T	PR3A	2	RDQ6	T
GND	GNDIO2	-			GNDIO2	-		
E22	PR2B	2	VREF2_2	C (LVDS)*	PR2B	2	VREF2_2/RDQ6	C (LVDS)*
F21	PR2A	2	VREF1_2	T (LVDS)*	PR2A	2	VREF1_2/RDQ6	T (LVDS)*
E23	PT64B	1	VREF2_1	C	PT73B	1	VREF2_1	C
GND	GNDIO1	-			GNDIO1	-		
D22	PT64A	1	VREF1_1	T	PT73A	1	VREF1_1	T
G20	PT63B	1		C	PT72B	1		C
J18	PT63A	1		T	PT72A	1		T
F20	PT62B	1		C	PT71B	1		C
VCCIO	VCCIO1	1			VCCIO1	1		
H19	PT62A	1		T	PT71A	1		T
A24	PT61B	1		C	PT70B	1		C
A23	PT61A	1		T	PT70A	1		T
E21	PT60B	1		C	PT69B	1		C
F19	PT60A	1		T	PT69A	1		T
C22	PT59B	1		C	PT68B	1		C
GND	GNDIO1	-			GNDIO1	-		
E20	PT59A	1		T	PT68A	1		T
B22	PT58B	1		C	PT67B	1		C
VCCIO	VCCIO1	1			VCCIO1	1		
B23	PT58A	1		T	PT67A	1		T

LFE2-20E/SE and LFE2-35E/SE Logic Signal Connections: 672 fpBGA (Cont.)

LFE2-20E/20SE					LFE2-35E/35SE			
Ball Number	Ball/Pad Function	Bank	Dual Function	Differential	Ball/Pad Function	Bank	Dual Function	Differential
GND	GNDIO1	-			GNDIO1	-		
C15	PT45B	1		C	PT45B	1		C
A15	PT45A	1		T	PT45A	1		T
A13	PT44B	1		C	PT44B	1		C
B13	PT44A	1		T	PT44A	1		T
VCCIO	VCCIO1	1			VCCIO1	1		
H17	PT43B	1		C	PT43B	1		C
H15	PT43A	1		T	PT43A	1		T
D13	PT42B	1		C	PT42B	1		C
C14	PT42A	1		T	PT42A	1		T
GND	GNDIO1	-			GNDIO1	-		
G14	PT41B	1		C	PT41B	1		C
E14	PT41A	1		T	PT41A	1		T
A12	PT40B	1		C	PT40B	1		C
B12	PT40A	1		T	PT40A	1		T
VCCIO	VCCIO1	1			VCCIO1	1		
F14	PT39B	1	PCLKC1_0	C	PT39B	1	PCLKC1_0	C
D14	PT39A	1	PCLKT1_0	T	PT39A	1	PCLKT1_0	T
H16	XRES	1			XRES	1		
H14	PT37B	0	PCLKC0_0	C	PT37B	0	PCLKC0_0	C
GND	GNDIO0	-			GNDIO0	-		
H13	PT37A	0	PCLKT0_0	T	PT37A	0	PCLKT0_0	T
A11	PT36B	0		C	PT36B	0		C
B11	PT36A	0		T	PT36A	0		T
C13	PT35B	0		C	PT35B	0		C
VCCIO	VCCIO0	0			VCCIO0	0		
E13	PT35A	0		T	PT35A	0		T
D12	PT34B	0		C	PT34B	0		C
F13	PT34A	0		T	PT34A	0		T
A10	PT33B	0		C	PT33B	0		C
B10	PT33A	0		T	PT33A	0		T
C12	PT32B	0		C	PT32B	0		C
GND	GNDIO0	-			GNDIO0	-		
C10	PT32A	0		T	PT32A	0		T
G13	PT31B	0		C	PT31B	0		C
VCCIO	VCCIO0	0			VCCIO0	0		
H12	PT31A	0		T	PT31A	0		T
A9	PT30B	0		C	PT30B	0		C
B9	PT30A	0		T	PT30A	0		T
E12	PT29B	0		C	PT29B	0		C
G12	PT29A	0		T	PT29A	0		T
A8	PT28B	0		C	PT28B	0		C
B8	PT28A	0		T	PT28A	0		T
GND	GNDIO0	-			GNDIO0	-		
E11	PT27B	0		C	PT27B	0		C
C9	PT27A	0		T	PT27A	0		T

LFE2-50E/SE and LFE2-70E/SE Logic Signal Connections: 672 fpBGA (Cont.)

LFE2-50E/SE					LFE2-70E/SE			
Ball Number	Ball/Pad Function	Bank	Dual Function	Differential	Ball/Pad Function	Bank	Dual Function	Differential
D4	PT7B	0		C	PT7B	0		C
D3	PT7A	0		T	PT7A	0		T
C2	PT6B	0		C	PT6B	0		C
C1	PT6A	0		T	PT6A	0		T
G8	PT5B	0		C	PT5B	0		C
GND	GNDIO0	-			GNDIO0	-		
G7	PT5A	0		T	PT5A	0		T
E7	PT4B	0		C	PT4B	0		C
VCCIO	VCCIO0	0			VCCIO0	0		
F7	PT4A	0		T	PT4A	0		T
E6	PT3B	0		C	PT3B	0		C
E5	PT3A	0		T	PT3A	0		T
G6	PT2B	0	VREF2_0	C	PT2B	0	VREF2_0	C
G5	PT2A	0	VREF1_0	T	PT2A	0	VREF1_0	T
L12	VCC	-			VCC	-		
L13	VCC	-			VCC	-		
L14	VCC	-			VCC	-		
L15	VCC	-			VCC	-		
M11	VCC	-			VCC	-		
M12	VCC	-			VCC	-		
M15	VCC	-			VCC	-		
M16	VCC	-			VCC	-		
N11	VCC	-			VCC	-		
N16	VCC	-			VCC	-		
P11	VCC	-			VCC	-		
P16	VCC	-			VCC	-		
R11	VCC	-			VCC	-		
R12	VCC	-			VCC	-		
R15	VCC	-			VCC	-		
R16	VCC	-			VCC	-		
T12	VCC	-			VCC	-		
T13	VCC	-			VCC	-		
T14	VCC	-			VCC	-		
T15	VCC	-			VCC	-		
D11	VCCIO0	0			VCCIO0	0		
D6	VCCIO0	0			VCCIO0	0		
G9	VCCIO0	0			VCCIO0	0		
K12	VCCIO0	0			VCCIO0	0		
J12	VCCIO0	0			VCCIO0	0		
D16	VCCIO1	1			VCCIO1	1		
D21	VCCIO1	1			VCCIO1	1		
G18	VCCIO1	1			VCCIO1	1		
J15	VCCIO1	1			VCCIO1	1		
K15	VCCIO1	1			VCCIO1	1		
F23	VCCIO2	2			VCCIO2	2		
J20	VCCIO2	2			VCCIO2	2		

LFE2-70E/SE Logic Signal Connections: 900 fpBGA (Cont.)

LFE2-70E/SE				
Ball Number	Ball/Pad Function	Bank	Dual Function	Differential
P25	PR51B	2	RDQ54	C
VCCIO	VCCIO2	2		
P23	PR51A	2	RDQ54	T
P27	PR50B	2	RDQ54	C (LVDS)*
P28	PR50A	2	RDQ54	T (LVDS)*
GND	GNDIO2	-		
VCCIO	VCCIO2	2		
N24	PR39B	2	RUM0_SPLLC_FB_A/RDQ37	C
N26	PR39A	2	RUM0_SPLLT_FB_A/RDQ37	T
N23	PR38B	2	RUM0_SPLLC_IN_A/RDQ37	C
N25	PR38A	2	RUM0_SPLLT_IN_A/RDQ37	T
VCCIO	VCCIO2	2		
P29	PR37B	2	RDQ37	C (LVDS)*
P30	PR37A	2	RDQS37	T (LVDS)*
M26	PR36B	2	RDQ37	C
GND	GNDIO2	-		
M24	PR36A	2	RDQ37	T
N29	PR35B	2	RDQ37	C (LVDS)*
N30	PR35A	2	RDQ37	T (LVDS)*
M25	PR34B	2	RDQ37	C
VCCIO	VCCIO2	2		
M23	PR34A	2	RDQ37	T
M27	PR33B	2	RDQ37	C (LVDS)*
M28	PR33A	2	RDQ37	T (LVDS)*
L26	PR32B	2	RDQ29	C
GND	GNDIO2	-		
L24	PR32A	2	RDQ29	T
M29	PR31B	2	RDQ29	C (LVDS)*
M30	PR31A	2	RDQ29	T (LVDS)*
L25	PR30B	2	RDQ29	C
VCCIO	VCCIO2	2		
L23	PR30A	2	RDQ29	T
L27	PR29B	2	RDQ29	C (LVDS)*
L28	PR29A	2	RDQS29	T (LVDS)*
GND	GNDIO2	-		
K24	PR28B	2	RDQ29	C
K26	PR28A	2	RDQ29	T
L29	PR27B	2	RDQ29	C (LVDS)*
L30	PR27A	2	RDQ29	T (LVDS)*
VCCIO	VCCIO2	2		
K23	PR26B	2	RDQ29	C
K25	PR26A	2	RDQ29	T
K27	PR25B	2	RDQ29	C (LVDS)*

LFE2-70E/SE Logic Signal Connections: 900 fpBGA (Cont.)

LFE2-70E/SE				
Ball Number	Ball/Pad Function	Bank	Dual Function	Differential
AG4	NC	-		
AG8	NC	-		
AH1	NC	-		
AH16	NC	-		
AH2	NC	-		
AH26	NC	-		
AH27	NC	-		
AH29	NC	-		
AH30	NC	-		
AH4	NC	-		
AJ1	NC	-		
AJ2	NC	-		
AJ27	NC	-		
AJ28	NC	-		
AJ29	NC	-		
AJ3	NC	-		
AJ30	NC	-		
AK2	NC	-		
AK27	NC	-		
AK28	NC	-		
AK29	NC	-		
AK3	NC	-		
B1	NC	-		
B2	NC	-		
B3	NC	-		
B30	NC	-		
B4	NC	-		
B5	NC	-		
C1	NC	-		
C2	NC	-		
C29	NC	-		
C30	NC	-		
C4	NC	-		
D13	NC	-		
D18	NC	-		
D23	NC	-		
D28	NC	-		
D29	NC	-		
D3	NC	-		
D30	NC	-		
D4	NC	-		
E25	NC	-		
E26	NC	-		

LFE2M50E/SE and LFE2M70E/SE Logic Signal Connections: 900 fpBGA (Cont.)

LFE2M50E/SE					LFE2M70E/SE				
Ball Number	Ball/Pad Function	Bank	Dual Function	Differential	Ball/Pad Function	Bank	Dual Function	Differential	
L5	PL23A	7	LDQ27	T (LVDS)*	PL33A	7	LDQ37	T (LVDS)*	
L4	PL23B	7	LDQ27	C (LVDS)*	PL33B	7	LDQ37	C (LVDS)*	
N9	PL24A	7	LDQ27	T	PL34A	7	LDQ37	T	
N7	PL24B	7	LDQ27	C	PL34B	7	LDQ37	C	
K2	PL25A	7	LDQ27	T (LVDS)*	PL35A	7	LDQ37	T (LVDS)*	
K1	PL25B	7	LDQ27	C (LVDS)*	PL35B	7	LDQ37	C (LVDS)*	
P9	PL26A	7	LDQ27	T	PL36A	7	LDQ37	T	
P7	PL26B	7	LDQ27	C	PL36B	7	LDQ37	C	
GNDIO	GNDIO7	-			GNDIO7	-			
M6	PL27A	7	LDQS27	T (LVDS)*	PL37A	7	LDQS37	T (LVDS)*	
M5	PL27B	7	LDQ27	C (LVDS)*	PL37B	7	LDQ37	C (LVDS)*	
N5	PL28A	7	LDQ27	T	PL38A	7	LDQ37	T	
N6	PL28B	7	LDQ27	C	PL38B	7	LDQ37	C	
M4	PL29A	7	LDQ27	T (LVDS)*	PL39A	7	LDQ37	T (LVDS)*	
M3	PL29B	7	LDQ27	C (LVDS)*	PL39B	7	LDQ37	C (LVDS)*	
P6	PL30A	7	LDQ27	T	PL40A	7	LDQ37	T	
GNDIO	GNDIO7	-			GNDIO7	-			
P8	PL30B	7	LDQ27	C	PL40B	7	LDQ37	C	
L3	PL32A	7	LUM3_SPLLT_IN_A/LDQ36	T (LVDS)*	PL42A	7	LUM3_SPLLT_IN_A/LDQ46	T (LVDS)*	
L2	PL32B	7	LUM3_SPLLC_IN_A/LDQ36	C (LVDS)*	PL42B	7	LUM3_SPLLC_IN_A/LDQ46	C (LVDS)*	
P5	PL33A	7	LUM3_SPLLT_FB_A/LDQ36	T	PL43A	7	LUM3_SPLLT_FB_A/LDQ46	T	
P4	PL33B	7	LUM3_SPLLC_FB_A/LDQ36	C	PL43B	7	LUM3_SPLLC_FB_A/LDQ46	C	
L1	PL34A	7	LDQ36	T (LVDS)*	PL44A	7	LDQ46	T (LVDS)*	
M2	PL34B	7	LDQ36	C (LVDS)*	PL44B	7	LDQ46	C (LVDS)*	
R5	PL35A	7	LDQ36	T	PL45A	7	LDQ46	T	
R4	PL35B	7	LDQ36	C	PL45B	7	LDQ46	C	
GNDIO	GNDIO7	-			GNDIO7	-			
M1	PL36A	7	LDQS36	T (LVDS)*	PL46A	7	LDQS46	T (LVDS)*	
N2	PL36B	7	LDQ36	C (LVDS)*	PL46B	7	LDQ46	C (LVDS)*	
R8	PL37A	7	LDQ36	T	PL47A	7	LDQ46	T	
T9	PL37B	7	LDQ36	C	PL47B	7	LDQ46	C	
P3	PL38A	7	LDQ36	T (LVDS)*	PL48A	7	LDQ46	T (LVDS)*	
P2	PL38B	7	LDQ36	C (LVDS)*	PL48B	7	LDQ46	C (LVDS)*	
N1	PL39A	7	PCLKT7_0/LDQ36	T	PL49A	7	PCLKT7_0/LDQ46	T	
GNDIO	GNDIO7	-			GNDIO7	-			
P1	PL39B	7	PCLKC7_0/LDQ36	C	PL49B	7	PCLKC7_0/LDQ46	C	
T5	PL41A	6	PCLKT6_0	T (LVDS)*	PL51A	6	PCLKT6_0/LDQ55	T (LVDS)*	
T4	PL41B	6	PCLKC6_0	C (LVDS)*	PL51B	6	PCLKC6_0/LDQ55	C (LVDS)*	
U7	PL42A	6	VREF2_6	T	PL52A	6	VREF2_6/LDQ55	T	
T8	PL42B	6	VREF1_6	C	PL52B	6	VREF1_6/LDQ55	C	
R3	PL43A	6		T (LVDS)*	PL53A	6	LDQ55	T (LVDS)*	
VCCIO	VCCIO6	6			VCCIO6	6			
R2	PL43B	6		C (LVDS)*	PL53B	6	LDQ55	C (LVDS)*	
R1	PL44A	6		T	PL54A	6	LDQ55	T	
T1	PL44B	6		C	PL54B	6	LDQ55	C	
GNDIO	GNDIO6	-			GNDIO6	-			
-	-	-			VCCIO6	6			
T3	PL45A	6	LLM3_SPLLT_IN_A	T (LVDS)*	PL57A	6	LLM3_SPLLT_IN_A/LDQ55	T (LVDS)*	

LFE2M50E/SE and LFE2M70E/SE Logic Signal Connections: 900 fpBGA (Cont.)

LFE2M50E/SE					LFE2M70E/SE				
Ball Number	Ball/Pad Function	Bank	Dual Function	Differential	Ball/Pad Function	Bank	Dual Function	Differential	
J16	PT51B	1		C	PT60B	1		C	
G15	PT51A	1		T	PT60A	1		T	
GNDIO	GNDIO1	-			GNDIO1	-			
C16	PT50B	1		C	PT59B	1		C	
D16	PT50A	1		T	PT59A	1		T	
J15	PT49B	1		C	PT58B	1		C	
H15	PT49A	1		T	PT58A	1		T	
VCCIO	VCCIO1	1			VCCIO1	1			
A15	PT48B	1	VREF2_1	C	PT57B	1	VREF2_1	C	
B15	PT48A	1	VREF1_1	T	PT57A	1	VREF1_1	T	
F15	PT47B	1	PCLKC1_0	C	PT56B	1	PCLKC1_0	C	
E16	PT47A	1	PCLKT1_0	T	PT56A	1	PCLKT1_0	T	
C15	PT46B	0	PCLKC0_0	C	PT55B	0	PCLKC0_0	C	
GNDIO	GNDIO0	-			GNDIO0	-			
D15	PT46A	0	PCLKT0_0	T	PT55A	0	PCLKT0_0	T	
C14	PT45B	0	VREF2_0	C	PT54B	0	VREF2_0	C	
E15	PT45A	0	VREF1_0	T	PT54A	0	VREF1_0	T	
G14	PT44B	0		C	PT53B	0		C	
VCCIO	VCCIO0	0			VCCIO0	0			
J14	PT44A	0		T	PT53A	0		T	
F14	PT43B	0		C	PT52B	0		C	
H14	PT43A	0		T	PT52A	0		T	
A14	PT42B	0		C	PT51B	0		C	
B14	PT42A	0		T	PT51A	0		T	
D13	PT41B	0		C	PT50B	0		C	
GNDIO	GNDIO0	-			GNDIO0	-			
F13	PT41A	0		T	PT50A	0		T	
G13	PT40B	0		C	PT49B	0		C	
VCCIO	VCCIO0	0			VCCIO0	0			
J11	PT40A	0		T	PT49A	0		T	
D4	PT38B	0		C	PT47B	0		C	
D5	PT38A	0		T	PT47A	0		T	
E5	PT37B	0		C	PT46B	0		C	
F6	PT37A	0		T	PT46A	0		T	
GNDIO	GNDIO0	-			GNDIO0	-			
VCCIO	VCCIO0	0			VCCIO0	0			
F7	PT34B	0		C	PT43B	0		C	
D8	PT34A	0		T	PT43A	0		T	
GNDIO	GNDIO0	-			GNDIO0	-			
J13	PT32B	0		C	PT41B	0		C	
G11	PT32A	0		T	PT41A	0		T	
H13	PT31B	0		C	PT40B	0		C	
H12	PT31A	0		T	PT40A	0		T	
VCCIO	VCCIO0	0			VCCIO0	0			
E8	PT30B	0		C	PT39B	0		C	
D9	PT30A	0		T	PT39A	0		T	
D12	PT28B	0		C	PT37B	0		C	
GNDIO	GNDIO0	-			GNDIO0	-			

LFE2M50E/SE and LFE2M70E/SE Logic Signal Connections: 900 fpBGA (Cont.)

LFE2M50E/SE					LFE2M70E/SE				
Ball Number	Ball/Pad Function	Bank	Dual Function	Differential	Ball/Pad Function	Bank	Dual Function	Differential	
L13	VCC	-			VCC	-			
L18	VCC	-			VCC	-			
L19	VCC	-			VCC	-			
M11	VCC	-			VCC	-			
M12	VCC	-			VCC	-			
M13	VCC	-			VCC	-			
M14	VCC	-			VCC	-			
M15	VCC	-			VCC	-			
M16	VCC	-			VCC	-			
M17	VCC	-			VCC	-			
M18	VCC	-			VCC	-			
M19	VCC	-			VCC	-			
M20	VCC	-			VCC	-			
N11	VCC	-			VCC	-			
N12	VCC	-			VCC	-			
N19	VCC	-			VCC	-			
N20	VCC	-			VCC	-			
P12	VCC	-			VCC	-			
P19	VCC	-			VCC	-			
R12	VCC	-			VCC	-			
R19	VCC	-			VCC	-			
T12	VCC	-			VCC	-			
T19	VCC	-			VCC	-			
U12	VCC	-			VCC	-			
U19	VCC	-			VCC	-			
V11	VCC	-			VCC	-			
V12	VCC	-			VCC	-			
V19	VCC	-			VCC	-			
V20	VCC	-			VCC	-			
W11	VCC	-			VCC	-			
W12	VCC	-			VCC	-			
W13	VCC	-			VCC	-			
W14	VCC	-			VCC	-			
W15	VCC	-			VCC	-			
W16	VCC	-			VCC	-			
W17	VCC	-			VCC	-			
W18	VCC	-			VCC	-			
W19	VCC	-			VCC	-			
W20	VCC	-			VCC	-			
Y12	VCC	-			VCC	-			
Y13	VCC	-			VCC	-			
Y18	VCC	-			VCC	-			
Y19	VCC	-			VCC	-			
D14	VCCIO0	0			VCCIO0	0			
E6	VCCIO0	0			VCCIO0	0			
E9	VCCIO0	0			VCCIO0	0			
F12	VCCIO0	0			VCCIO0	0			
K12	VCCIO0	0			VCCIO0	0			

LFE2M70E/SE and LFE2M100E/SE Logic Signal Connections: 1152 fpBGA (Cont.)

LFE2M70E/SE				LFE2M100E/SE				
Ball Number	Ball/Pad Function	Bank	Dual Function	Differential	Ball/Pad Function	Bank	Dual Function	Differential
AK20	PB66B	4	BDQ69	C	PB75B	4	BDQ78	C
AN22	PB67A	4	BDQ69	T	PB76A	4	BDQ78	T
AL21	PB67B	4	BDQ69	C	PB76B	4	BDQ78	C
VCCIO	VCCIO4	4			VCCIO4	4		
GNDIO	GNDIO4	-			GNDIO4	-		
AH19	PB69A	4	BDQS69	T	PB78A	4	BDQS78	T
AJ20	PB69B	4	BDQ69	C	PB78B	4	BDQ78	C
AD20	PB71A	4	BDQ69	T	PB80A	4	BDQ78	T
AF20	PB71B	4	BDQ69	C	PB80B	4	BDQ78	C
VCCIO	VCCIO4	4			VCCIO4	4		
AJ19	PB72A	4	BDQ69	T	PB81A	4	BDQ78	T
AH20	PB72B	4	BDQ69	C	PB81B	4	BDQ78	C
AE20	PB73A	4	BDQ69	T	PB82A	4	BDQ78	T
AG20	PB73B	4	BDQ69	C	PB82B	4	BDQ78	C
GNDIO	GNDIO4	-			GNDIO4	-		
AH22	NC	-			PB89A	4	BDQ87	T
-	-	-			VCCIO4	4		
AH21	NC	-			PB89B	4	BDQ87	C
AG22	NC	-			PB90A	4	BDQ87	T
AG21	NC	-			PB90B	4	BDQ87	C
-	-	-			GNDIO4	-		
AM22	PB74A	4	BDQ78	T	PB92A	4	BDQ96	T
AL22	PB74B	4	BDQ78	C	PB92B	4	BDQ96	C
VCCIO	VCCIO4	4			VCCIO4	4		
AP23	PB77A	4	BDQ78	T	PB95A	4	BDQ96	T
AN23	PB77B	4	BDQ78	C	PB95B	4	BDQ96	C
GNDIO	GNDIO4	-			GNDIO4	-		
AM24	PB78A	4	BDQS78	T	PB96A	4	BDQS96	T
AL24	PB78B	4	BDQ78	C	PB96B	4	BDQ96	C
AK22	PB79A	4	BDQ78	T	PB97A	4	BDQ96	T
AJ22	PB79B	4	BDQ78	C	PB97B	4	BDQ96	C
AL23	PB80A	4	BDQ78	T	PB98A	4	BDQ96	T
AK23	PB80B	4	BDQ78	C	PB98B	4	BDQ96	C
VCCIO	VCCIO4	4			VCCIO4	4		
AJ23	PB81A	4	BDQ78	T	PB99A	4	BDQ96	T
AH23	PB81B	4	BDQ78	C	PB99B	4	BDQ96	C
GNDIO	GNDIO4	-			GNDIO4	-		
AL28	LRC_SQ_VCCRX3	13			LRC_SQ_VCCRX3	13		
AM26	LRC_SQ_HDINP3	13		T	LRC_SQ_HDINP3	13		T
AN26	LRC_SQ_VCCIB3	13			LRC_SQ_VCCIB3	13		
AM27	LRC_SQ_HDINN3	13		C	LRC_SQ_HDINN3	13		C
AN27	LRC_SQ_VCCTX3	13			LRC_SQ_VCCTX3	13		
AP26	LRC_SQ_HDOUTP3	13		T	LRC_SQ_HDOUTP3	13		T
AL26	LRC_SQ_VCCOB3	13			LRC_SQ_VCCOB3	13		
AP27	LRC_SQ_HDOUTN3	13		C	LRC_SQ_HDOUTN3	13		C
AN28	LRC_SQ_VCCTX2	13			LRC_SQ_VCCTX2	13		
AP28	LRC_SQ_HDOUTN2	13		C	LRC_SQ_HDOUTN2	13		C
AK28	LRC_SQ_VCCOB2	13			LRC_SQ_VCCOB2	13		
AP29	LRC_SQ_HDOUTP2	13		T	LRC_SQ_HDOUTP2	13		T

LFE2M70E/SE and LFE2M100E/SE Logic Signal Connections: 1152 fpBGA (Cont.)

LFE2M70E/SE				LFE2M100E/SE				
Ball Number	Ball/Pad Function	Bank	Dual Function	Differential	Ball/Pad Function	Bank	Dual Function	Differential
AK12	NC	-			NC	-		
AK24	NC	-			NC	-		
AK25	NC	-			NC	-		
AK26	NC	-			NC	-		
AK4	NC	-			NC	-		
AK9	NC	-			NC	-		
AL11	NC	-			NC	-		
AL12	NC	-			NC	-		
AL34	NC	-			NC	-		
AM10	NC	-			NC	-		
AM11	NC	-			NC	-		
AM13	NC	-			NC	-		
AM25	NC	-			NC	-		
AN10	NC	-			NC	-		
AN11	NC	-			NC	-		
AN12	NC	-			NC	-		
AN13	NC	-			NC	-		
AN24	NC	-			NC	-		
AN25	NC	-			NC	-		
AP11	NC	-			NC	-		
AP12	NC	-			NC	-		
AP24	NC	-			NC	-		
B10	NC	-			NC	-		
B11	NC	-			NC	-		
B12	NC	-			NC	-		
B13	NC	-			NC	-		
B22	NC	-			NC	-		
B23	NC	-			NC	-		
B24	NC	-			NC	-		
B25	NC	-			NC	-		
C10	NC	-			NC	-		
C11	NC	-			NC	-		
C13	NC	-			NC	-		
C22	NC	-			NC	-		
C24	NC	-			NC	-		
C25	NC	-			NC	-		
D1	NC	-			NC	-		
D15	NC	-			NC	-		
D24	NC	-			NC	-		
D34	NC	-			NC	-		
E10	NC	-			NC	-		
E24	NC	-			NC	-		
E25	NC	-			NC	-		
E26	NC	-			NC	-		
E3	NC	-			NC	-		
E31	NC	-			NC	-		
E32	NC	-			NC	-		
E33	NC	-			NC	-		
E34	NC	-			NC	-		

Part Number	I/Os	Voltage	Grade	Package	Pins	Temp.	LUTs (K)
LFE2M100E-5FN1152I	520	1.2V	-5	Lead-Free fpBGA	1152	Ind	100
LFE2M100E-6FN1152I	520	1.2V	-6	Lead-Free fpBGA	1152	Ind	100
LFE2M100E-5FN900I	416	1.2V	-5	Lead-Free fpBGA	900	Ind	100
LFE2M100E-6FN900I	416	1.2V	-6	Lead-Free fpBGA	900	Ind	100

LatticeECP2M S-Series Devices, Conventional Packaging

Commercial

Part Number	I/Os	Voltage	Grade	Package	Pins	Temp.	LUTs (K)
LFE2M20SE-5F484C	304	1.2V	-5	fpBGA	484	Com	20
LFE2M20SE-6F484C	304	1.2V	-6	fpBGA	484	Com	20
LFE2M20SE-7F484C	304	1.2V	-7	fpBGA	484	Com	20
LFE2M20SE-5F256C	140	1.2V	-5	fpBGA	256	Com	20
LFE2M20SE-6F256C	140	1.2V	-6	fpBGA	256	Com	20
LFE2M20SE-7F256C	140	1.2V	-7	fpBGA	256	Com	20

Part Number	I/Os	Voltage	Grade	Package	Pins	Temp.	LUTs (K)
LFE2M35SE-5F672C	410	1.2V	-5	fpBGA	672	Com	35
LFE2M35SE-6F672C	410	1.2V	-6	fpBGA	672	Com	35
LFE2M35SE-7F672C	410	1.2V	-7	fpBGA	672	Com	35
LFE2M35SE-5F484C	303	1.2V	-5	fpBGA	484	Com	35
LFE2M35SE-6F484C	303	1.2V	-6	fpBGA	484	Com	35
LFE2M35SE-7F484C	303	1.2V	-7	fpBGA	484	Com	35
LFE2M35SE-5F256C	140	1.2V	-5	fpBGA	256	Com	35
LFE2M35SE-6F256C	140	1.2V	-6	fpBGA	256	Com	35
LFE2M35SE-7F256C	140	1.2V	-7	fpBGA	256	Com	35

Part Number	I/Os	Voltage	Grade	Package	Pins	Temp.	LUTs (K)
LFE2M50SE-5F900C	410	1.2V	-5	fpBGA	900	Com	50
LFE2M50SE-6F900C	410	1.2V	-6	fpBGA	900	Com	50
LFE2M50SE-7F900C	410	1.2V	-7	fpBGA	900	Com	50
LFE2M50SE-5F672C	372	1.2V	-5	fpBGA	672	Com	50
LFE2M50SE-6F672C	372	1.2V	-6	fpBGA	672	Com	50
LFE2M50SE-7F672C	372	1.2V	-7	fpBGA	672	Com	50
LFE2M50SE-5F484C	270	1.2V	-5	fpBGA	484	Com	50
LFE2M50SE-6F484C	270	1.2V	-6	fpBGA	484	Com	50
LFE2M50SE-7F484C	270	1.2V	-7	fpBGA	484	Com	50

Part Number	I/Os	Voltage	Grade	Package	Pins	Temp.	LUTs (K)
LFE2M100SE-5FN1152C	520	1.2V	-5	Lead-Free fpBGA	1152	Com	100
LFE2M100SE-6FN1152C	520	1.2V	-6	Lead-Free fpBGA	1152	Com	100
LFE2M100SE-7FN1152C	520	1.2V	-7	Lead-Free fpBGA	1152	Com	100
LFE2M100SE-5FN900C	416	1.2V	-5	Lead-Free fpBGA	900	Com	100
LFE2M100SE-6FN900C	416	1.2V	-6	Lead-Free fpBGA	900	Com	100
LFE2M100SE-7FN900C	416	1.2V	-7	Lead-Free fpBGA	900	Com	100