



*ispLSI[®], MACH[®], ispGDX[™]
& ispGAL[®] Packages*

All dimensions refer to package body size

Fine Pitch BGA

49-Ball BGA

7.00 x 7.00 mm
0.8 mm pitch

100-Ball BGA

10.00 x 10.00 mm
0.8 mm pitch

144-Ball BGA

13.00 x 13.00 mm
1.0 mm pitch

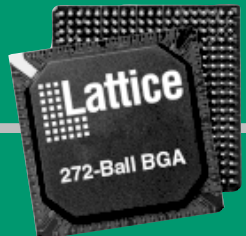
208-Ball BGA
256-Ball BGA

17.00 x 17.00 mm
1.0 mm pitch

BGA



27.00 x 27.00 mm



27.00 x 27.00 mm



30.90 x 30.90 mm



35.00 x 35.00 mm



35.00 x 35.00 mm

TQFP

48-Pin TQFP

7.00 x 7.00 mm

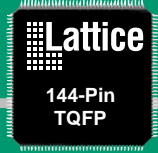
44-Pin TQFP

10.00 x 10.00 mm

100-Pin TQFP
128-Pin TQFP



14.00 x 14.00 mm

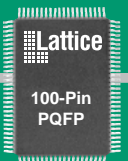


20.00 x 20.00 mm

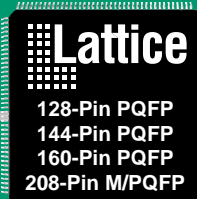


24.00 x 24.00 mm

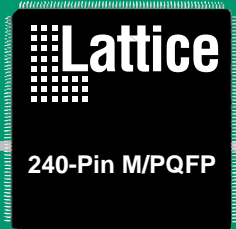
M/PQFP



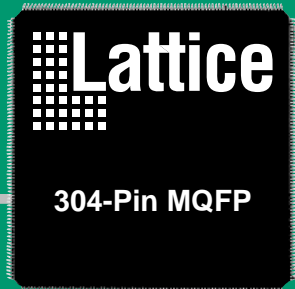
14.00 x 20.00 mm



27.59 x 27.59 mm (MQFP)
28.00 x 28.00 mm (PQFP)



31.60 x 31.60 mm (MQFP)
32.00 x 32.00 mm (PQFP)



39.60 x 39.60 mm

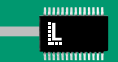


39.90 x 39.90 mm

PLCC

SSOP

28-Pin SSOP



10.07 x 5.20 mm

28-Pin PLCC



0.45 x 0.45 in



0.65 x 0.65 in



0.95 x 0.95 in



1.15 x 1.15 in

Package Options from Lattice/Vantis

		Device	Macrocells	Total Registers	I/O + Dedicated Inputs	16 bit Counter Speed (Fmax in MHz)	Pin-to-Pin Speed (Tpd in ns)	PLCC	SSOP	TQFP	PQFP	MOFP	BGA (1.27 mm pitch)	Fine Pitch BGA (1.0/0.8 mm pitch)	Same Package Migration Path	In-System Programming (ISP™, JTAG)	JTAG Boundary Scan Test	I/O Slew Rate Control	Input Registers	Bus Hold Latches	Core Voltage (V)	I/O Voltage (V)	
FOCUS PRODUCTS	MACH4A (5V)	M4A5-32/32	32	32	32+2	182, 167, 125*, 118*, 95*	5, 5.5, 7.5*, 10*, 12*	44	—	44/48	—	—	—	—	M4A5-64/32	JTAG	✓	✓	✓	✓	5	5/3.3	
		M4A5-64/32	64	96	32+2	167, 125, 118*, 95*	5.5, 7.5, 10*, 12*	44	—	44/48	—	—	—	—	—	JTAG	✓	✓	✓	✓	5	5/3.3	
		M4A5-96/48	96	144	48+8	167, 125, 118*, 95*	5.5, 7.5, 10*, 12*	—	—	100	—	—	—	—	M4A5-128/64	JTAG	✓	✓	✓	✓	5	5/3.3	
		M4A5-128/64	128	192	64+6	167, 125, 118*, 95*	5.5, 7.5, 10*, 12*	—	—	100	100	—	—	—	—	—	JTAG	✓	✓	✓	✓	5	5/3.3
		M4A5-192/96	192	288	96+16	154, 125, 118*, 95*	6.5, 7.5, 10*, 12*	—	—	144	—	—	—	—	—	—	JTAG	✓	✓	✓	✓	5	5/3.3
		M4A5-256/128	256	384	128+14	154, 125, 118*, 95*	6.5, 7.5, 10*, 12*	—	—	—	208	—	—	256	—	—	JTAG	✓	✓	✓	✓	5	5/3.3
	MACH4A (3.3V)	M4A3-32/32	32	32	32+2	182, 167, 125*, 118*, 95*	5, 5.5, 7.5, 10*, 12*	44	—	44/48	—	—	—	—	—	M4A3-64/32	JTAG	✓	✓	✓	✓	3.3	5/3.3
		M4A3-64/32	64	96	32+2	167, 125, 118*, 95*	5.5, 7.5, 10*, 12*	44	—	44/48	—	—	—	—	—	—	JTAG	✓	✓	✓	✓	3.3	5/3.3
		M4A3-64/64	64	64	64+6	167, 125, 118*, 95*	5.5, 7.5, 10*, 12*	—	—	100	—	—	—	100	M4A3-128/64	JTAG	✓	✓	✓	✓	3.3	5/3.3	
		M4A3-96/48	96	144	48+8	167, 125, 118*, 95*	5.5, 7.5, 10*, 12*	—	—	100	—	—	—	—	M4A3-128/64	JTAG	✓	✓	✓	✓	3.3	5/3.3	
		M4A3-128/64	128	192	64+6	167, 125, 118*, 95*	5.5, 7.5, 10*, 12*	—	—	100	100	—	—	100	M4A3-192/68	JTAG	✓	✓	✓	✓	3.3	5/3.3	
		M4A3-128	128	128	96+16/128+4	154, 125, 118*, 95*	6.5, 7.5, 10*, 12*	—	—	144/176	—	—	—	144/208	M4A3-192/128	JTAG	✓	✓	✓	✓	3.3	5/3.3	
		M4A3-192/96	192	288	96+16	154, 125, 118*, 95*	6.5, 7.5, 10*, 12*	—	—	144	—	—	—	144	—	JTAG	✓	✓	✓	✓	3.3	5/3.3	
		M4A3-192	192	192	68+2/128+4	154, 125, 118*, 95*	6.5, 7.5, 10*, 12*	—	—	100/176	—	—	—	100/208	M4A3-256/128	JTAG	✓	✓	✓	✓	3.3	5/3.3	
		M4A3-256/128	256	384	128+14	154, 125, 118*, 95*	6.5, 7.5, 10*, 12*	—	—	176	208	—	256	208	M4A3-384	JTAG	✓	✓	✓	✓	3.3	5/3.3	
		M4A3-256	192	288	160/192	154, 125, 118*, 95*	6.5, 7.5, 10*, 12*	—	—	—	208	—	—	256	M4A3-384/160	JTAG	✓	✓	✓	✓	3.3	5/3.3	
		M4A3-384	384	576	132/160/192	154, 125, 118*, 95*	6.5, 7.5, 10*, 12*	—	—	176	208	—	256	—	M4A3-512	JTAG	✓	✓	✓	✓	3.3	5/3.3	
		M4A3-512	512	768	132/160/192/256	154, 125, 118*, 95*	6.5, 7.5, 10*, 12*	—	—	176	208	—	256/352	—	—	JTAG	✓	✓	✓	✓	3.3	5/3.3	
	2000E	ispLSI 2032E	32	32	32 + 2	225, 180, 135, 110	3.5, 5, 7.5, 10	44	—	44, 48	—	—	—	—	1016E (44)	JTAG	—	✓	—	—	5	5/3.3	
		ispLSI 2064E	64	64	64 + 4	200, 135, 100	4.5, 7.5, 10	—	—	100	—	—	—	—	1032E (100)	JTAG	—	✓	—	—	5	5/3.3	
		ispLSI 2096E	96	96	96 + 6	180, 135, 100	5, 7.5, 10	—	—	128	128	—	—	—	1048E (128)	JTAG	—	✓	—	—	5	5/3.3	
		ispLSI 2128E	128	128	128 + 8	180, 135, 100	5, 7.5, 10	—	—	176	—	—	—	—	—	JTAG	—	✓	—	—	5	5/3.3	
	2000VE	ispLSI 2032VE	32	32	32+2	225, 180*, 135, 110	4, 5*, 7.5, 10	44	—	44*/48	—	—	—	49	2064VE (44)	JTAG	✓	✓	✓	✓	3.3	5/3.3	
		ispLSI 2064VE	64	64	32+4/64+4	200, 135*, 100	4.5, 7.5*, 10	44	—	44*/100*	—	—	—	100	2128VE (100)	JTAG	✓	✓	✓	✓	3.3	5/3.3	
		ispLSI 2096VE	96	96	96+6	200, 135*, 100	4.5, 7.5*, 10	—	—	128*	—	—	—	—	2192VE (128)	JTAG	✓	✓	✓	✓	3.3	5/3.3	
		ispLSI 2128VE	128	128	64+8/128+8	180, 135*, 100	5, 7.5*, 10	—	—	100*/176*	160	—	—	100/208	—	JTAG	✓	✓	✓	✓	3.3	5/3.3	
		ispLSI 2192VE	192	192	96+9/12	180, 135*, 100	5, 7.5*, 10	—	—	128	—	—	—	144	—	JTAG	✓	✓	✓	✓	3.3	5/3.3	
		2000VL	ispLSI 2032VL	32	32	32+2	180, 135*, 110	5, 7.5*, 10	44	—	44*/48	—	—	—	49	2064VL (44)	JTAG	✓	✓	✓	✓	2.5	3.3/2.5
ispLSI 2064VL	64		64	32+4/64+4	165, 135*, 100	5.5, 7.5*, 10	44	—	44*/100*	—	—	—	100	2128VL (100)	JTAG	✓	✓	✓	✓	2.5	3.3/2.5		
ispLSI 2096VL	96		96	96+6	165, 135*, 100	5.5, 7.5*, 10	—	—	128*	—	—	—	—	2192VL (128)	JTAG	✓	✓	✓	✓	2.5	3.3/2.5		
ispLSI 2128VL	128		128	64+8/128+8	150, 135*, 100	6, 7.5*, 10	—	—	100*/176*	160	—	—	100/208	—	JTAG	✓	✓	✓	✓	2.5	3.3/2.5		
ispLSI 2192VL	192		192	96+9/12	150, 135*, 100	6, 7.5, 10	—	—	128	—	—	—	144	—	JTAG	✓	✓	✓	✓	2.5	3.3/2.5		
5000V	ispLSI 5258VA	256	256	144/192	125, 100, 70*	7.5, 10, 15*	—	—	—	208	—	272*	208	5384VA (208, 272)	JTAG	✓	✓	✓	✓	3.3	5/3.3/2.5		
	ispLSI 5384VA	384	384	144/192/288	125, 100, 70*	7.5, 10, 15*	—	—	—	208	—	272*/388	208	5512VA (208, 272, 388)	JTAG	✓	✓	✓	✓	3.3	5/3.3/2.5		
	ispLSI 5512VA	512	512	144/192/288	110, 100, 70*	8.5, 10, 15*	—	—	—	208	—	272/388*	—	—	JTAG	✓	✓	✓	✓	3.3	5/3.3/2.5		
8000	ispLSI 8840	840	1152	312	110, 90, 60	8.5, 10, 15	—	—	—	—	—	432	—	—	ISP / JTAG	✓	✓	✓	✓	5	5/3.3		
8000V	ispLSI 8600V	600	864	192/264	110, 90, 60	8.5, 10, 15	—	—	—	—	—	272/492	—	8840V (272, 492)	JTAG	✓	✓	✓	✓	3.3	5/3.3/2.5		
	ispLSI 8840V	840	1152	192/312	110, 90, 60	8.5, 10, 15	—	—	—	—	—	272/492	—	81080V (272, 492)	JTAG	✓	✓	✓	✓	3.3	5/3.3/2.5		
	ispLSI 81080V	1080	1440	192/360	110, 90, 60	8.5, 10, 15	—	—	—	—	—	272/492	—	—	JTAG	✓	✓	✓	✓	3.3	5/3.3/2.5		
ispGDX	ispGDX80A	N/A	80	80	111, 80	5, 7	—	—	100	—	—	—	—	—	ISP / JTAG	✓	✓	✓	✓	5	5		
	ispGDX120A	N/A	120	120	111, 80	5, 7	—	—	176	160	—	—	—	—	ISP / JTAG	✓	✓	✓	✓	5	5		
	ispGDX160A	N/A	160	160	111, 80	5, 7	—	—	—	208	—	272	—	—	ISP / JTAG	✓	✓	✓	✓	5	5		
ispGDXV	ispGDX160V	N/A	160	160	111, 80*	5, 7*	—	—	—	208*	—	272	208	—	JTAG	✓	✓	✓	✓	3.3	5/3.3		
MACH1	MACH111	32	32	32+6	182, 133*, 100*, 76.9*, 66.6*	5, 7.5*, 10*, 12*, 15*	44*	—	44	—	—	—	—	—	—	JTAG	—	✓	—	—	5	5/3.3	
	MACH111SP	32	32	32+2	182, 133*, 100*, 76.9*, 66.6*	5, 7.5*, 10*, 12*, 15*	44*	—	44	—	—	—	—	—	—	JTAG	—	✓	—	—	5	5/3.3	
	MACH131	64	64	64+6	182, 133*, 100*, 76.9*, 66.6*	5.5, 7.5*, 10*, 12*, 15*	84*	—	—	—	—	—	—	—	—	JTAG	—	✓	—	—	5	5/3.3	
	MACH131SP	64	64	64+6	182, 133*, 100*, 76.9*, 66.6*	5.5, 7.5, 10, 12, 15	—	—	100	100	—	—	—	—	—	JTAG	—	✓	—	—	5	5/3.3	
MACH2	MACH211	64	64	32+6	133, 100*, 83.3*, 66.6*	7.5, 10*, 12*, 15*	44*	—	44	—	—	—	—	—	—	JTAG	—	✓	—	—	5	5/3.3	
	MACH211SP	64	64	32+2	166, 133*, 100*, 83.3*, 66.6*	6, 7.5*, 10*, 12*, 15*	44*	—	44	—	—	—	—	—	—	JTAG	—	✓	—	—	5	5/3.3	
	MACH221	96	96	48+8	133, 100*, 83.3*, 66.6*	7.5, 10*, 12*, 15*	68*	—	—	—	—	—	—	—	—	JTAG	—	✓	—	—	5	5	
	MACH221SP	96	96	48+8	133, 100*, 83.3*, 66.6*	7.5, 10*, 12*, 15*	—	—	—	100*	—	—	—	—	—	JTAG	—	✓	—	—	5	5	
	MACH231	128	128	64+6	166, 133*, 100*, 83.3*, 66.6*	6, 7.5*, 10*, 12*, 15*	84*	—	—	—	—	—	—	—	—	JTAG	—	✓	—	—	5	5/3.3	
MACH231SP	MACH231SP	128	128	64+6	100, 83.3*, 66.6*	10, 12*, 15*	—	—	100	100*	—	—	—	—	—	JTAG	—	✓	—	—	5	5/3.3	

	Device	Macrocells	Total Registers	I/O + Dedicated Inputs	16 bit Counter Speed (Fmax in MHz)	Pin-to-Pin Speed (Tpd in ns)	PLCC	SSOP	TQFP	PQFP	MQFP	BGA (1.27 mm pitch)	Fine Pitch BGA (1.00/0.8 mm pitch)	Same Package Migration Path	In-System Programming (ISP TM , JTAG)	JTAG Boundary Scan Test	I/O Slew Rate Control	Input Registers	Bus Hold Latches	Core Voltage (V)	I/O Voltage (V)
MACH4	M4-32/32	32	32	32+2	111, 95, 77, 56*	7.5, 10, 12, 15*	44*	—	44*/48*	—	—	—	—	M4-64	JTAG	✓	✓	✓	✓	5	5/3.3
	M4-64/32	64	96	32+2	111, 95, 77, 56*	7.5, 10, 12, 15*	44*	—	44*/48*	—	—	—	—	—	JTAG	✓	✓	✓	✓	5	5/3.3
	M4-96/48	96	144	48+8	111, 95, 77, 56*	7.5, 10, 12, 15*	—	—	100*	—	—	—	M4-128	JTAG	✓	✓	✓	✓	5	5/3.3	
	M4-128/64	128	192	64+6	111, 95, 77, 56*	7.5, 10, 12, 15*	—	—	100*	100*	—	—	—	—	JTAG	✓	✓	✓	✓	5	5/3.3
	M4-128N/64	128	192	64+6	111, 95, 77, 56*	7.5, 10, 12, 15*	84*	—	—	—	—	—	—	—	—	✓	✓	✓	✓	5	5/3.3
	M4-192/96	192	288	96+16	111, 95, 77, 56*	7.5, 10, 12, 15*	—	—	144*	—	—	—	—	—	JTAG	✓	✓	✓	✓	5	5/3.3
M4-256/128	256	384	128+14	111, 95, 77, 56*	7.5, 10, 12, 15*	—	—	—	208*	—	256*	—	—	JTAG	✓	✓	✓	✓	5	5/3.3	
MACH4LV	M4LV-32/32	32	32	32+2	111, 95, 77, 56*	7.5, 10, 12, 15*	44*	—	44*/48*	—	—	—	—	M4LV-64	JTAG	✓	✓	—	✓	3.3	5/3.3
	M4LV-64/32	64	96	32+2	111, 95, 77, 56*	7.5, 10, 12, 15*	44*	—	44*/48*	—	—	—	—	—	JTAG	✓	✓	—	✓	3.3	5/3.3
	M4LV-96/48	96	144	48+8	111, 95, 77, 56*	7.5, 10, 12, 15*	—	—	100*	—	—	—	—	M4LV-128	JTAG	✓	✓	—	✓	3.3	5/3.3
	M4LV-128/64	128	192	64+6	111, 95, 77, 56*	7.5, 10, 12, 15*	—	—	100*	100*	—	—	—	—	JTAG	✓	✓	—	✓	3.3	5/3.3
	M4LV-128N/64	128	192	64+6	111, 95, 77, 56*	7.5, 10, 12, 15*	84*	—	—	—	—	—	—	—	—	✓	✓	✓	✓	3.3	5/3.3
	M4LV-192/96	192	288	96+16	111, 95, 77, 56*	7.5, 10, 12, 15*	—	—	144*	—	—	—	—	—	JTAG	✓	✓	—	✓	3.3	5/3.3
M4LV-256/128	256	384	128+14	111, 95, 77, 56*	7.5, 10, 12, 15*	—	—	—	208*	—	256*	—	—	JTAG	✓	✓	—	✓	3.3	5/3.3	
MACH5A (5V)	M5A5-128	128	128	68+4/74+4/104+4/120+4	182, 125, 100*, 83.3*	5.5, 7.5, 10, 12*	—	—	100/144	100/160	—	—	—	M5A5-192	JTAG	✓	✓	—	✓	5	5/3.3
	M5A5-192	192	192	68+4/74+4/104+4/120+4	182, 125, 100*, 83.3*	5.5, 7.5, 10, 12*	—	—	100/144	100/160	—	—	—	M5A5-256	JTAG	✓	✓	—	✓	5	5/3.3
	M5A5-256	256	256	68+4/74+4/104+4/120+4/160+4	182, 125, 100*, 83.3*	5.5, 7.5, 10, 12*	—	—	100/144	100/160/208	—	—	—	M5A5-320	JTAG	✓	✓	—	✓	5	5/3.3
MACH5A (3.3V)	M5A3-128	128	128	68+4/74+4/104+4/120+4	182, 125, 100*, 83.3*	5.5, 7.5, 10, 12*	—	—	100/144	100/160	—	—	—	M5A3-192	JTAG	✓	✓	—	✓	3.3	5/3.3
	M5A3-192	192	192	68+4/74+4/104+4/120+4	182, 125, 100*, 83.3*	5.5, 7.5, 10, 12*	—	—	100/144	100/160	—	—	—	M5A3-256	JTAG	✓	✓	—	✓	3.3	5/3.3
	M5A3-256	256	256	68+4/74+4/104+4/120+4/160+4	182, 125, 100*, 83.3*	5.5, 7.5, 10, 12*	—	—	100/144	100/160/208	—	—	—	M5A3-320	JTAG	✓	✓	—	✓	3.3	5/3.3
	M5A3-320	320	320	120+4/160+4/192+4	167, 125, 100*, 83.3*	6.5, 7.5, 10, 12*	—	—	—	160/208	—	256	—	M5A3-384	JTAG	✓	✓	—	✓	3.3	5/3.3
	M5A3-384	384	384	120+4/160+4/192+4	167, 125, 100*, 83.3*	6.5, 7.5, 10, 12*	—	—	—	160/208	—	256	—	M5A3-512	JTAG	✓	✓	—	✓	3.3	5/3.3
	M5A3-512	512	512	120+4/160+4/192+4/256+4	167, 125, 100*, 83.3*	6.5, 7.5, 10, 12*	—	—	—	160/208	—	256/352	—	—	JTAG	✓	✓	—	✓	3.3	5/3.3
MACH5	M5-128	128	128	68+4/104+4/120+4	125, 100*, 83.3*, 62.5*	7.5, 10, 12, 15*	—	—	100*	100*/144*/160*	—	—	—	M5-192	JTAG	✓	✓	—	✓	5	5/3.3
	M5-192	192	192	68+4/104+4/120+4/160+4	125, 100*, 83.3*, 62.5*	7.5, 10, 12, 15*	—	—	100*	100*/144*/160*/208*	—	—	—	M5-256	JTAG	✓	✓	—	✓	5	5/3.3
	M5-256	256	256	68+4/104+4/120+4/160+4	125, 100*, 83.3*, 62.5*	7.5, 10, 12, 15*	—	—	100*	100*/144*/160*/208*	—	—	—	M5-320	JTAG	✓	✓	—	✓	5	5/3.3
	M5-320	320	320	120+4/160+4/184+4/192+4	125, 100*, 83.3*, 62.5*	7.5, 10, 12, 15*	—	—	—	160*/208*/240*	—	256*	—	M5-384	JTAG	✓	✓	—	✓	5	5/3.3
	M5-384	384	384	120+4/160+4/184+4/192+4	125, 100*, 83.3*, 62.5*	7.5, 10, 12, 15*	—	—	—	160*/208*/240*	—	256*	—	M5-512	—	✓	✓	—	✓	5	5/3.3
	M5-512	512	512	120+4/160+4/184+4/192+4/256+4	125, 100*, 83.3*, 62.5*	7.5, 10, 12, 15*	—	—	—	160*/208*/240*	—	256*/352*	—	—	JTAG	✓	✓	—	✓	5	5/3.3
MACH5LV	M5LV-128	128	128	68+4/74+4/104+4/120+4	182, 125, 100*, 83.3*	5.5, 7.5, 10, 12*	—	—	100*/144*	100*/144*/160*	—	—	—	M5LV-256	JTAG	✓	✓	—	✓	3.3	5/3.3
	M5LV-256	256	256	68+4/74+4/104+4/120+4/160+4	182, 125, 100*, 83.3*	5.5, 7.5, 10, 12*	—	—	100*/144*	100*/144*/160*/208*	—	—	—	M5LV-320	JTAG	✓	✓	—	✓	3.3	5/3.3
	M5LV-320	320	320	120+4/160+4/184+4/192+4	125, 100*, 83.3*, 62.5*	7.5, 10, 12, 15*	—	—	—	160*/208*/240*	—	256*	—	M5LV-384	JTAG	✓	✓	—	✓	3.3	5/3.3
	M5LV-384	384	384	120+4/160+4/184+4/192+4	125, 100*, 83.3*, 62.5*	7.5, 10, 12, 15*	—	—	—	160*/208*/240*	—	256*	—	M5LV-512	JTAG	✓	✓	—	✓	3.3	5/3.3
	M5LV-512	512	512	120+4/160+4/184+4/192+4/256+4	125, 100*, 83.3*, 62.5*	7.5, 10, 12, 15*	—	—	—	160*/208*/240*	—	256*/352*	—	—	—	✓	✓	—	✓	3.3	5/3.3
1000EA	ispLSI 1032EA	128	192	64 + 4	200, 170, 125, 100	4, 5, 7.5, 10	—	—	100	—	—	—	—	JTAG	✓	✓	—	✓	5	5/3.3	
	ispLSI 1048EA	192	288	96 + 8	170, 125, 100	5, 7.5, 10	—	—	128	128	—	—	—	JTAG	✓	✓	—	✓	5	5/3.3	
1000E	ispLSI 1016E	64	96	32 + 4	125, 100, 84*	7.5, 10, 15*	44*	—	44*	—	—	—	—	ISP	—	✓	✓	—	✓	5	5
	ispLSI 1024	96	144	48 + 6	91, 80, 60*	12, 15, 20*	68*	—	100*	—	—	—	—	ISP	—	✓	✓	—	✓	5	5
	ispLSI 1032E	128	192	64 + 8	125, 100, 70*	7.5, 10, 15*	84*	—	100*	—	—	—	—	ISP	—	✓	✓	—	✓	5	5
	ispLSI 1048E	192	288	96 + 12	125, 100, 70*	7.5, 10, 15*	—	—	128	128*	—	—	—	ISP	—	✓	✓	—	✓	5	5
2000	ispLSI 2032	32	32	32 + 2	180, 154, 137, 111, 84*	5, 5.5, 7.5, 10, 15*	44*	—	44*/48*	—	—	—	—	1016E (44)	ISP	—	✓	—	—	5	5
	ispLSI 2064	64	64	64 + 4	125, 100, 81*	7.5, 10, 15*	84*	—	100*	—	—	—	—	1032E (84, 100)	ISP	—	✓	—	—	5	5
	ispLSI 2096	96	96	96 + 6	125, 100, 81*	7.5, 10, 15*	—	—	128*	128*	—	—	—	1048E (128)	ISP	—	✓	—	—	5	5
	ispLSI 2128	128	128	128 + 8	100, 81*	10, 15*	—	—	176*	160	—	—	—	3256A (160)	ISP	—	✓	—	—	5	5
2000V	ispLSI 2032V	32	32	32 + 2	100, 80, 60*	7.5, 10, 15*	44*	—	44*	—	—	—	—	2064V (44)	JTAG	—	✓	—	—	3.3	5/3.3
	ispLSI 2064V	64	64	32+4/64+4	100, 80, 60*	7.5, 10, 15*	44/84	—	44*/100*	—	—	—	—	2128V (84, 100)	JTAG	—	✓	—	—	3.3	5/3.3
	ispLSI 2096V	96	96	96 + 6	80, 60*	10, 15*	—	—	128*	128	—	—	—	JTAG	—	✓	—	—	3.3	5/3.3	
	ispLSI 2128V	128	96	64+4/8/128+8	80, 60*	10, 15*	84	—	100*/176*	160	—	—	—	JTAG	—	✓	—	—	3.3	5/3.3	
3000	ispLSI 3160	160	320	160	125, 100, 70	7.5, 10, 15	—	—	—	208	—	272	—	3320 (208)	ISP / JTAG	✓	✓	—	✓	5	5
	ispLSI 3192	192	384	192	100, 70*	10, 15*	—	—	—	—	240*	272	—	—	ISP / JTAG	✓	✓	—	✓	5	5
	ispLSI 3256A	256	384	128	90, 77*	12, 15*	—	—	—	160*	—	—	—	—	ISP / JTAG	✓	✓	—	✓	5	5
	ispLSI 3256E	256	512	256	100, 70	10, 15	—	—	—	—	304	320	—	—	ISP / JTAG	✓	✓	—	✓	5	5
	ispLSI 3320	320	480	160	100, 70	10, 15	—	—	—	208	—	320	—	—	ISP / JTAG	✓	✓	—	✓	5	5
	ispLSI 3448	448	672	224	90, 70	12, 15	—	—	—	—	—	432	—	—	ISP / JTAG	✓	✓	—	✓	5	5
6000	ispLSI 6192FF	192	416	159	77, 57	15, 20	—	—	—	—	208	—	—	—	ISP / JTAG	✓	✓	—	✓	5	5
	ispLSI 6192DM	192	416	159	77, 57	15, 20	—	—	—	—	208	—	—	—	ISP / JTAG	✓	✓	—	✓	5	

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