

Lattice Socket Products

The following hardware can be used to program loose, unsoldered devices off-board. Consult the lists below to determine which best suits your needs.

Smart Sockets

Lattice Smart Sockets are an all-in-one desktop programming solution for the latest Lattice products. The top of each Smart Socket includes a socket for the target device / package type. Smart Sockets require only a single connection to the PC for power and programming control. No other hardware is required. Programming is controlled with the Diamond Programmer software.

Product Family	Device	Package Type	Smart Socket Part Number	ROHS Compliant	Notes
ASC10	All	48-pin QFN	PSSN-S48-ASC10	Y	
Crosslink	All	36-ball WLCSP	PSSN-UW36-LIF-MD	Y	
Crosslink	All	64-ball ucfBGA	PSSN-UM64-LIF-MD	Y	
Crosslink	All	80-ball ctfBGA	PSSN-JM80-LIF-MD	Y	
Crosslink	All	81-ball csfBGA	PSSN-M81-LIF-MD	Y	
ECP5	All	285-ball csfBGA	PSSN-M285-LFE5	Y	
ECP5	All	381-ball caBGA	PSSN-B381-LFE5	Y	
ECP5	All	554-ball caBGA	PSSN-B554-LFE5	Y	
ECP5	All	756-ball caBGA	PSSN-B756-LFE5	Y	
iCE40HX	All	121-ball caBGA	PSSN-B121-ICE40HX	Y	
iCE40 Ultra (iCE5LP)	All	36-ball WLCSP (0.35)	PSSN-SW36-ICE5LP	Y	
iCE40 Ultra (iCE5LP)	All	36-ball ucfBGA (0.4)	PSSN-CM36-ICE5LP	Y	
iCE40 Ultra (iCE5LP)	All	48-pin QFN	PSSN-S48-ICE5LP	Y	
iCE40 UltraLite	All	16-ball WLCSP	PSSN-SWG16-ICE40UL	Y	
iCE40 UltraLite	All	36-ball ucBGA	PSSN-CM36A-ICE40UL	Y	
iCE40 UltraPlus	All	30-ball WLCSP	PSSN-UW30-ICE40UP	Y	
iCE40 UltraPlus	All	48-pin QFN	PSSN-S48-ICE40UP	Y	
MachXO2	All	84-pin QFN	PSSN-QN84-LCMXO2	Y	
MachXO2	All	48-pin QFN	PSSN-SG48-LCMXO2	Y	
MachXO2	All	256-ball ftBGA	PSSN-FT256-LCMXO2	Y	
MachXO2	All	484-ball fpBGA	PSSN-F484-LCMXO2	Y	
MachXO3L/LF	All	36-ball WLCSP (0.4)	PSSN-UW36-LCMXO3	Y	
MachXO3L/LF / MachXO2	All	49-ball WLCSP (0.4)	PSSN-UW49-LCMXO3	Y	
MachXO3D	All	72-pin QFN	PSSN-SG72-LCMXO3	Y	
MachXO3L/LF	All	81-ball WLCSP	PSSN-UW81-LCMXO3	Y	
MachXO3L/LF	All	121-ball csfBGA	PSSN-M121-LCMXO3	Y	
MachXO3L/LF/D	All	256-ball caBGA	PSSN-B256-LCMXO3	Y	
MachXO3L/LF	All	256-ball csfBGA	PSSN-M256-LCMXO3	Y	
MachXO3L/LF	All	324-ball csfBGA	PSSN-M324-LCMXO3	Y	
MachXO3L/LF	All	324-ball caBGA	PSSN-B324-LCMXO3	Y	
MachXO3L/LF/D	All	400-ball caBGA	PSSN-B400-LCMXO3	Y	
MachXO3L/LF/D	All	484-ball caBGA	PSSN-B484-LCMXO3	Y	

Lattice Desktop Programmers

The Lattice Model 300 Desktop Programmer enables programming of all Lattice families except iCE. The Model 300 is supported by the Lattice Programming Cable (included with the Model 300). To program a specific Lattice device, an appropriate Lattice Socket Adapter must be installed on the Model 300 Desktop Programmer.

The iCEprog Desktop Programmer supported all iCE products, and requires an iCE socket adapter for the device/package you wish to program. It is supported with the Lattice Programming Cable (included with the iCEprog) and the Diamond Programmer software.

Lattice Programmers	Device Support	Vcc Support	Ordering Part Number
Model 300	All Lattice products except iCE	1.8V - 5.0V	pDS4102-PM300N
Model 100	Lattice products with 5.0V Vcc	5.0V	Not Available
iCEprog	All iCE products		ICEPROGM1050-01

Lattice 28-pin Converter

The Lattice 28-pin Converter can allow use of a Lattice Socket Adapter with some 3rd party programmers. Consult with your 3rd party programmer to determine if the 28-pin Converter is suitable for use in your programming environment.

Device	Ordering Part Number
28-pin Converter (RoHs Compliant)	pDS4102N-28P2SAB

Lattice Socket Adapters

Socket Adapters are the interface between the desktop programmer (Model 300 or iCEprog) and Lattice programmable devices. This document shows which Lattice Socket Adapters support which Lattice programmable products. Lattice Socket Adapters are device and package specific, however some Socket Adapters support multiple Lattice products. Use the tables on the following pages to determine which socket adapter you require.

Product Family	Device	Package Type	Socket Adapter Part Number	ROHS Compliant	Notes
iCE65	All	81-ball csBGA	ICESABCB81-01	Y	3
iCE65	All	121-ball csBGA	ICESABCB121-01	Y	3
iCE65	All	132-ball csBGA	ICESABCB132/196-01	Y	3
iCE65	All	CB196	ICESABCB132/196-01	Y	3
iCE65	All	CB284	ICESABCB284-01	Y	3
iCE65	All	84-pin QFNS	ICESABQN84-01	Y	3
iCE65	All	100-pin TQFP	ICESABVQ100-01	Y	3
iCE40 LP/HX	All	81-ball csBGA	ICESABCB81-01	Y	3
iCE40 LP/HX	All	121-ball csBGA	ICESABCB121-01	Y	3
iCE40 LP/HX	All	225-ball ucBGA	ICESABCM225-01	Y	3
iCE40 LP/HX	All	84-pin QFNS	ICESABQN84-01	Y	3
iCE40 LP/HX	All	132-ball csBGA	ICESABCB132/196-01	Y	3
iCE40 LP/HX	All	100-pin TQFP	ICESABVQ100-01	Y	3
iCE40 LP/HX	All	36-ball ucBGA	ICESABCM36-01	Y	3
iCE40 LP/HX	All	49-ball ucBGA	ICESABCM49-01	Y	3
iCE40 LP/HX	All	81-ball ucBGA	ICESABCM81-01	Y	3
iCE40 LP/HX	All	144-pin TQFP	ICESABTQ144-01	Y	3
iCE40 LP/HX	All	256-ball caBGA	ICESABFT256-01	Y	3
iCE40 LP/HX	All	32-pin QFN	ICESABQN32-01	Y	3
iCE40 LP/HX	iCE40-4K/8K	121-ball ucBGA	ICESABCM121-01	Y	3
LatticeECP3	LFE3-17EA	256 ftBGA	PN-FT256-E3	Y	No longer available - part number is for reference only.

Product Family	Device	Package Type	Socket Adapter Part Number	ROHS Compliant	Notes
LatticeECP3	LFE3-17EA	484 fpBGA	PN-F484-E3	Y	
LatticeECP3	LFE3-17EA	328 csBGA	PN-M328-E3	Y	
LatticeECP3	LFE3-35EA	256 ftBGA	PN-FT256-E3	Y	No longer available - part number is for reference only.
LatticeECP3	LFE3-35EA	484 fpBGA	PN-F484-E3	Y	
LatticeECP3	LFE3-35EA	672 fpBGA	PN-F672-E3	Y	
LatticeECP3	LFE3-70EA	484 fpBGA	PN-F484-E3	Y	
LatticeECP3	LFE3-70EA	672 fpBGA	PN-F672-E3	Y	
LatticeECP3	LFE3-70EA	1156 fpBGA	PN-F1156-E3	Y	
LatticeECP3	LFE3-95EA	484 fpBGA	PN-F484-E3	Y	
LatticeECP3	LFE3-95EA	672 fpBGA	PN-F672-E3	Y	
LatticeECP3	LFE3-95EA	1156 fpBGA	PN-F1156-E3	Y	
LatticeECP3	LFE3-150EA	672 fpBGA	PN-F672-E3	Y	
LatticeECP3	LFE3-150EA	1156 fpBGA	PN-F1156-E3	Y	
LatticeECP2S	LFE2-6SE	144 pin TQFP	PN-TN144/E2	Y	
LatticeECP2S	LFE2-6SE	256 ball fpBGA	PN-FN256/E2	Y	
LatticeECP2S	LFE2-12SE	144 pin TQFP	PN-TN144/E2	Y	
LatticeECP2S	LFE2-12SE	208 pin PQFP	PN-QN208/E2	Y	
LatticeECP2S	LFE2-12SE	256 ball fpBGA	PN-FN256/E2	Y	
LatticeECP2S	LFE2-12SE	484 ball fpBGA	PN-FN484/E2	Y	No longer available - part number is for reference only.
LatticeECP2S	LFE2-20SE	208 pin PQFP	PN-QN208/E2	Y	
LatticeECP2S	LFE2-20SE	256 ball fpBGA	PN-FN256/E2	Y	
LatticeECP2S	LFE2-20SE	484 ball fpBGA	PN-FN484/E2	Y	No longer available - part number is for reference only.
LatticeECP2S	LFE2-20SE	672 ball fpBGA	PN-FN672/E2	Y	No longer available - part number is for reference only.
LatticeECP2S	LFE2-35SE	484 ball fpBGA	PN-FN484/E2	Y	No longer available - part number is for reference only.
LatticeECP2S	LFE2-35SE	672 ball fpBGA	PN-FN672/E2	Y	No longer available - part number is for reference only.
LatticeECP2S	LFE2-50SE	484 ball fpBGA	PN-FN484/E2	Y	No longer available - part number is for reference only.
LatticeECP2S	LFE2-50SE	672 ball fpBGA	PN-FN672/E2	Y	No longer available - part number is for reference only.
LatticeECP2S	LFE2-70SE	672 ball fpBGA	PN-FN672/E2	Y	No longer available - part number is for reference only.
LatticeECP2S	LFE2-70SE	900 ball fpBGA	Not Available		
LatticeECP2MS	LFE2M20SE	256 ball fpBGA	PN-FN256/E2M	Y	
LatticeECP2MS	LFE2M20SE	484 ball fpBGA	PN-FN484/E2M	Y	No longer available - part number is for reference only.
LatticeECP2MS	LFE2M35SE	256 ball fpBGA	PN-FN256/E2M	Y	
LatticeECP2MS	LFE2M35SE	484 ball fpBGA	PN-FN484/E2M	Y	No longer available - part number is for reference only.
LatticeECP2MS	LFE2M35SE	672 ball fpBGA	PN-FN672/E2M	Y	No longer available - part number is for reference only.
LatticeECP2MS	LFE2M50SE	484 ball fpBGA	PN-FN484/E2M	Y	No longer available - part number is for reference only.
LatticeECP2MS	LFE2M50SE	672 ball fpBGA	PN-FN672/E2M	Y	No longer available - part number is for reference only.
LatticeECP2MS	LFE2M50SE	900 ball fpBGA	Not Available		
LatticeECP2MS	LFE2M70SE	900 ball fpBGA	Not Available		
LatticeECP2MS	LFE2M70SE	1152 ball fpBGA	Not Available		
LatticeECP2MS	LFE2M100SE	900 ball fpBGA	Not Available		
LatticeECP2MS	LFE2M100SE	1152 ball fpBGA	Not Available		
LatticeECP2MS	LFE2M100SE	1156 ball fpBGA	Not Available		
LatticeXP2	LFXP2-5E	132 ball csBGA	PN-M132/LFXP2	Y	
LatticeXP2	LFXP2-5E	144 pin TQFP	PN-T144/LFXP2	Y	
LatticeXP2	LFXP2-5E	208 pin PQFP	PN-Q208/LFXP2	Y	
LatticeXP2	LFXP2-5E	256 ball ftBGA	PN-FT256/LFXP2	Y	No longer available - part number is for reference only.
LatticeXP2	LFXP2-8E	132 ball csBGA	PN-M132/LFXP2	Y	
LatticeXP2	LFXP2-8E	144 pin TQFP	PN-T144/LFXP2	Y	
LatticeXP2	LFXP2-8E	208 pin PQFP	PN-Q208/LFXP2	Y	
LatticeXP2	LFXP2-8E	256 ball ftBGA	PN-FT256/LFXP2	Y	No longer available - part number is for reference only.
LatticeXP2	LFXP2-17E	208 pin PQFP	PN-Q208/LFXP2	Y	
LatticeXP2	LFXP2-17E	256 ball ftBGA	PN-FT256/LFXP2	Y	No longer available - part number is for reference only.
LatticeXP2	LFXP2-17E	484 ball fpBGA	PN-F484/LFXP2	Y	
LatticeXP2	LFXP2-30E	256 ball ftBGA	PN-FT256/LFXP2	Y	No longer available - part number is for reference only.
LatticeXP2	LFXP2-30E	484 ball fpBGA	PN-F484/LFXP2	Y	
LatticeXP2	LFXP2-30E	672 ball fp BGA	PN-F672/LFXP2	Y	
LatticeXP2	LFXP2-40E	484 ball fpBGA	PN-F484/LFXP2	Y	
LatticeXP2	LFXP2-40E	672 ball fpBGA	PN-F672/LFXP2	Y	
LatticeXP	LFXP3C	100 pin TQFP	PN-T100/LFXP3C	Y	
LatticeXP	LFXP3C	144 pin TQFP	PN-T144/LFXP3C	Y	
LatticeXP	LFXP3C	208 pin PQFP	PN-Q208/LFXP3C	Y	
LatticeXP	LFXP3E	100 pin TQFP	PN-T100/LFXP3E	Y	No longer available - part number is for reference only, 1
LatticeXP	LFXP3E	144 pin TQFP	PN-T144/LFXP3E	Y	No longer available - part number is for reference only, 1
LatticeXP	LFXP3E	208 pin PQFP	PA-Q208/LFXP3E	Y	No longer available - part number is for reference only, 1
LatticeXP	LFXP6C	144 pin TQFP	PN-T144/LFXP3C	Y	No longer available - part number is for reference only
LatticeXP	LFXP6C	208 pin PQFP	PN-Q208/LFXP3C	Y	
LatticeXP	LFXP6C	256 ball fpBGA	PN-F256/LFXP10C	Y	No longer available - part number is for reference only
LatticeXP	LFXP6E	144 pin TQFP	PN-T144/LFXP3E	Y	No longer available - part number is for reference only, 1
LatticeXP	LFXP6E	208 pin PQFP	PA-Q208/LFXP3E	Y	No longer available - part number is for reference only, 1
LatticeXP	LFXP6E	256 ball fpBGA	PN-F256/LFXP10E	Y	No longer available - part number is for reference only, 1
LatticeXP	LFXP10C	256 ball fpBGA	PN-F256/LFXP10C	Y	No longer available - part number is for reference only
LatticeXP	LFXP10C	388 ball fpBGA	PN-F388/LFXP10C	Y	
LatticeXP	LFXP10E	256 ball fpBGA	PN-F256/LFXP10E	Y	No longer available - part number is for reference only, 1
LatticeXP	LFXP10E	388 ball fpBGA	PN-F388/LFXP10E	Y	No longer available - part number is for reference only, 1
LatticeXP	LFXP15C	256 ball fpBGA	PN-F256/LFXP10C	Y	No longer available - part number is for reference only
LatticeXP	LFXP15C	388 ball fpBGA	PN-F388/LFXP10C	Y	
LatticeXP	LFXP15C	484 ball fpBGA	PN-F484/LFXP20C	Y	No longer available - part number is for reference only
LatticeXP	LFXP15E	256 ball fpBGA	PN-F256/LFXP10E	Y	No longer available - part number is for reference only, 1
LatticeXP	LFXP15E	388 ball fpBGA	PN-F388/LFXP10E	Y	No longer available - part number is for reference only, 1
LatticeXP	LFXP15E	484 ball fpBGA	PN-F484/LFXP20E	Y	No longer available - part number is for reference only, 1
LatticeXP	LFXP20C	256 ball fpBGA	PN-F256/LFXP10C	Y	No longer available - part number is for reference only
LatticeXP	LFXP20C	388 ball fpBGA	PN-F388/LFXP10C	Y	
LatticeXP	LFXP20C	484 ball fpBGA	PN-F484/LFXP20C	Y	No longer available - part number is for reference only
LatticeXP	LFXP20E	256 ball fpBGA	PN-F256/LFXP10E	Y	No longer available - part number is for reference only, 1
LatticeXP	LFXP20E	388 ball fpBGA	PN-F388/LFXP10E	Y	No longer available - part number is for reference only, 1
LatticeXP	LFXP20E	484 ball fpBGA	PN-F484/LFXP20E	Y	No longer available - part number is for reference only, 1
ispXPGA	LFX125 B/C	256 ball fpBGA	PN-F256/LFX200	Y	
ispXPGA	LFX125 B/C	516 ball fpBGA	PA-F516/LFX200	N	
ispXPGA	LFX200 B/C	256 ball fpBGA	PN-F256/LFX200	Y	
ispXPGA	LFX200 B/C	516 ball fpBGA	PA-F516/LFX200	N	
ispXPGA	LFX500 B/C	516 ball fpBGA	PA-F516/LFX200	N	
ispXPGA	LFX500 B/C	900 ball fpBGA	PA-F900/LFX1200	N	
ispXPGA	LFX1200 B/C	680 ball fpBGA	PA-FE680/LFX1200	N	
ispXPGA	LFX1200 B/C	900 ball fpBGA	PA-F900/LFX1200	N	
ispXPGA	LFX125E B/C	256 ball fpBGA	PN-F256/LFX200	Y	
ispXPGA	LFX125E B/C	516 ball fpBGA	PA-F516/LFX200	N	

Product Family	Device	Package Type	Socket Adapter Part Number	ROHS Compliant	Notes
ispXPGA	LFX200E B/C	256 ball fpBGA	PN-F256/LFX200	Y	
ispXPGA	LFX200E B/C	516 ball fpBGA	PA-F516/LFX200	N	
ispXPGA	LFX500E B/C	516 ball fpBGA	PA-F516/LFX200	N	
ispXPGA	LFX500E B/C	900 ball fpBGA	PA-F900/LFX1200	N	
ispXPGA	LFX1200E B/C	680 ball fpBGA	PA-FE680/LFX1200	N	
ispXPGA	LFX1200E B/C	900 ball fpBGA	PA-F900/LFX1200	N	
MachXO2	All	332 ball caBGA	PN-B332-LCMXO2	Y	2
MachXO2	All	100 pin TQFP	PN-T100-LCMXO2	Y	2
MachXO2	All	144 pin TQFP	PN-T144-LCMXO2	Y	2
MachXO2	All	132 ball csBGA	PN-M132-LCMXO2	Y	2
MachXO2	All	256 ball caBGA	PN-B256-LCMXO2	Y	2
MachXO2	All	256 ball ftBGA	See Smart Sockets for Support	Y	2
MachXO2	All	484 ball fpBGA	PN-F484-LCMXO2	Y	2
MachXO2	All	64 ball ucBGA	PN-UM64-LCMXO2	Y	2
MachXO2	All	32 pin QFN	PN-S32-LCMXO2	Y	2
MachXO2	All	184 ball csBGA	PN-M184-LCMXO2	Y	2
MachXO2	LCMXO2-1200	25 ball WLCSP	PN-UWG25-LCMXO2-1200	Y	2
MachXO	LAMXO256C	100 pin TQFP	PN-T100/LCMXO640C	Y	
MachXO	LAMXO256E	100 pin TQFP	PN-T100/LCMXO640E	Y	1
MachXO	LAMXO640C	100 pin TQFP	PN-T100/LCMXO640C	Y	
MachXO	LAMXO640C	144 pin TQFP	PN-T144/LCMXO640C	Y	
MachXO	LAMXO640C	256 ball ftBGA	PN-FT256/LCMXOC	Y	
MachXO	LAMXO640E	100 pin TQFP	PN-T100/LCMXO640E	Y	1
MachXO	LAMXO640E	144 pin TQFP	PN-T144/LCMXO640E	Y	1
MachXO	LAMXO640E	256 ball ftBGA	PN-FT256/LCMXOE	Y	1
MachXO	LAMXO1200E	100 pin TQFP	PN-T100/LCMXO1200E	Y	1
MachXO	LAMXO1200E	144 pin TQFP	PN-T144/LCMXO640E	Y	1
MachXO	LAMXO1200E	256 ball ftBGA	PN-FT256/LCMXOE	Y	1
MachXO	LAMXO2280E	100 pin TQFP	PN-T100/LCMXO1200E	Y	1
MachXO	LAMXO2280E	144 pin TQFP	PN-T144/LCMXO640E	Y	1
MachXO	LAMXO2280E	256 ball ftBGA	PN-FT256/LCMXOE	Y	1
MachXO	LAMXO2280E	324 ball ftBGA	PN-FT324/LCMXOE	Y	1
MachXO	LCMXO256C	100 pin TQFP	PN-T100/LCMXO640C	Y	
MachXO	LCMXO256C	100 ball csBGA	PN-M100/LCMXO640C	Y	
MachXO	LCMXO256E	100 pin TQFP	PN-T100/LCMXO640E (2)	Y	1
MachXO	LCMXO256E	100 ball csBGA	PN-M100/LCMXO640E (2)	Y	1
MachXO	LCMXO640C	100 pin TQFP	PN-T100/LCMXO640C	Y	
MachXO	LCMXO640C	144 pin TQFP	PN-T144/LCMXO640C	Y	
MachXO	LCMXO640C	100 ball csBGA	PN-M100/LCMXO640C	Y	
MachXO	LCMXO640C	132 ball csBGA	PN-M132/LCMXO640C	Y	
MachXO	LCMXO640C	256 ball ftBGA	PN-FT256/LCMXOC	Y	
MachXO	LCMXO640C	256 ball caBGA	PN-B256/LCMXOC	Y	
MachXO	LCMXO640E	100 pin TQFP	PN-T100/LCMXO640E	Y	1
MachXO	LCMXO640E	144 pin TQFP	PN-T144/LCMXO640E	Y	1
MachXO	LCMXO640E	100 ball csBGA	PN-M100/LCMXO640E	Y	1
MachXO	LCMXO640E	132 ball csBGA	PN-M132/LCMXO640E	Y	1
MachXO	LCMXO640E	256 ball ftBGA	PN-FT256/LCMXOE	Y	1
MachXO	LCMXO640E	256 ball caBGA	PN-B256/LCMXOE	Y	1
MachXO	LCMXO1200C	100 pin TQFP	PN-T100/LCMXO1200C	Y	
MachXO	LCMXO1200C	144 pin TQFP	PN-T144/LCMXO640C	Y	
MachXO	LCMXO1200C	132 ball csBGA	PN-M132/LCMXO640C	Y	
MachXO	LCMXO1200C	256 ball ftBGA	PN-FT256/LCMXOC	Y	
MachXO	LCMXO1200C	256 ball caBGA	PN-B256/LCMXOC	Y	
MachXO	LCMXO1200E	100 pin TQFP	PN-T100/LCMXO1200E	Y	1
MachXO	LCMXO1200E	144 pin TQFP	PN-T144/LCMXO640E	Y	1
MachXO	LCMXO1200E	132 ball csBGA	PN-M132/LCMXO640E	Y	1
MachXO	LCMXO1200E	256 ball ftBGA	PN-FT256/LCMXOE	Y	1
MachXO	LCMXO1200E	256 ball caBGA	PN-B256/LCMXOE	Y	1
MachXO	LCMXO2280C	100 pin TQFP	PN-T100/LCMXO1200C	Y	
MachXO	LCMXO2280C	144 pin TQFP	PN-T144/LCMXO640C	Y	
MachXO	LCMXO2280C	132 ball csBGA	PN-M132/LCMXO640C	Y	
MachXO	LCMXO2280C	256 ball ftBGA	PN-FT256/LCMXOC	Y	
MachXO	LCMXO2280C	324 ball ftBGA	PN-FT324/LCMXOC	Y	
MachXO	LCMXO2280C	256 ball caBGA	PN-B256/LCMXOC	Y	
MachXO	LCMXO2280E	100 pin TQFP	PN-T100/LCMXO1200E	Y	1
MachXO	LCMXO2280E	144 pin TQFP	PN-T144/LCMXO640E	Y	1
MachXO	LCMXO2280E	132 ball csBGA	PN-M132/LCMXO640E	Y	1
MachXO	LCMXO2280E	256 ball ftBGA	PN-FT256/LCMXOE	Y	1
MachXO	LCMXO2280E	256 ball caBGA	PN-B256/LCMXOE	Y	1
MachXO	LCMXO2280E	324 ball ftBGA	PN-FT324/LCMXOE	Y	1
ispXPLD	LC5256M V/B/C	256 ball fpBGA	PN-F256/LC5512MX	Y	
ispXPLD	LC5768M V/B/C	256 ball fpBGA	PN-F256/LC5512MX	Y	
ispXPLD	LC5768M V/B/C	484 ball fpBGA	PA-F484/LC5512MX	N	No longer available - part number is for reference only.
ispXPLD	LC5512M V/B/C	208 pin PQFP	PA-Q208/LC5512MX	N	
ispXPLD	LC5512M V/B/C	256 ball fpBGA	PN-F256/LC5512MX	Y	
ispXPLD	LC5512M V/B/C	484 ball fpBGA	PA-F484/LC5512MX	N	No longer available - part number is for reference only.
ispXPLD	LC51024M V/B/C	484 ball fpBGA	PA-F484/LC5512MX	N	No longer available - part number is for reference only.
ispXPLD	LC51024M V/B/C	672 ball fpBGA	PN-F672/LC51024MX	Y	
ispMACH 4000 ZE	LC4032 ZE	48 pin TQFP	PN-T48/LC4032	Y	
ispMACH 4000 ZE	LC4032 ZE	64 ball csBGA	PN-M64/LC4000ZE	Y	
ispMACH 4000 ZE	LC4064 ZE	48 pin TQFP	PN-T48/LC4032	Y	
ispMACH 4000 ZE	LC4064 ZE	64 ball csBGA	PN-M64/LC4000ZE	Y	
ispMACH 4000 ZE	LC4064 ZE	64 ball ucBGA	PN-UM64/LC4000ZE	Y	
ispMACH 4000 ZE	LC4064 ZE	100 pin TQFP	PN-T100/LC4256	Y	
ispMACH 4000 ZE	LC4064 ZE	144 ball csBGA	PN-M144/LC4000ZE	Y	
ispMACH 4000 ZE	LC4128 ZE	100 pin TQFP	PN-T100/LC4256	Y	
ispMACH 4000 ZE	LC4128 ZE	144 ball csBGA	PN-M144/LC4000ZE	Y	
ispMACH 4000 ZE	LC4128 ZE	144 pin TQFP	PN-T144/LC4128V	Y	
ispMACH 4000 ZE	LC4256 ZE	100 pin TQFP	PN-T100/LC4256	Y	
ispMACH 4000 ZE	LC4256 ZE	144 pin TQFP	PN-T144/LC4128V	Y	
ispMACH 4000 ZE	LC4256 ZE	144 ball csBGA	PN-M144/LC4000ZE	Y	
LA-ispMACH 4000	LA4032 V	44 pin TQFP	PA-T44/LC4032	N	
LA-ispMACH 4000	LA4032 V	48 pin TQFP	PN-T48/LC4032	Y	
LA-ispMACH 4000	LA4032 ZC	48 pin TQFP	PN-T48/LC4032	Y	
LA-ispMACH 4000	LA4064 V	44 pin TQFP	PA-T44/LC4032	N	
LA-ispMACH 4000	LA4064 V	48 pin TQFP	PN-T48/LC4032	Y	

Product Family	Device	Package Type	Socket Adapter Part Number	ROHS Compliant	Notes
LA-ispMACH 4000	LA4064 V	100 pin TQFP	PN-T100/LC4256	Y	
LA-ispMACH 4000	LA4064 ZC	48 pin TQFP	PN-T48/LC4032	Y	
LA-ispMACH 4000	LA4064 ZC	100 pin TQFP	PN-T100/LC4256	Y	
LA-ispMACH 4000	LA4128 V	100 pin TQFP	PN-T100/LC4256	Y	
LA-ispMACH 4000	LA4128 V	128 pin TQFP	PN-T128/LC4128	Y	
LA-ispMACH 4000	LA4128 V	144 pin TQFP	PN-T144/LC4128V	Y	
LA-ispMACH 4000	LA4128 ZC	100 pin TQFP	PN-T100/LC4256	Y	
ispMACH 4000	LC4032 V/B/C	44 pin TQFP	PA-T44/LC4032	Y	
ispMACH 4000	LC4032 V/B/C	48 pin TQFP	PN-T48/LC4032	Y	
ispMACH 4000	LC4032 ZC	48 pin TQFP	PN-T48/LC4032	Y	
ispMACH 4000	LC4032 ZC	56 ball csBGA	PN-M56/LC4032ZC	Y	
ispMACH 4000	LC4064 V/B/C	44 pin TQFP	PA-T44/LC4032	Y	
ispMACH 4000	LC4064 V/B/C	48 pin TQFP	PN-T48/LC4032	Y	
ispMACH 4000	LC4064 V/B/C	100 pin TQFP	PN-T100/LC4256	Y	
ispMACH 4000	LC4064 ZC	48 pin TQFP	PN-T48/LC4032	Y	
ispMACH 4000	LC4064 ZC	100 pin TQFP	PN-T100/LC4256	Y	
ispMACH 4000	LC4064 ZC	56 ball csBGA	PN-M56/LC4032ZC	Y	
ispMACH 4000	LC4064 ZC	132 ball csBGA	PN-M132/LC4064ZC	Y	
ispMACH 4000	LC4128 V/B/C	100 pin TQFP	PN-T100/LC4256	Y	
ispMACH 4000	LC4128 V/B/C	128 pin TQFP	PN-T128/LC4128	Y	
ispMACH 4000	LC4128 V	144 pin TQFP	PN-T144/LC4128V	Y	
ispMACH 4000	LC4128 ZC	100 pin TQFP	PN-T100/LC4256	Y	
ispMACH 4000	LC4128 ZC	132 ball csBGA	PN-M132/LC4064ZC	Y	
ispMACH 4000	LC4256 V/B/C	100 pin TQFP	PN-T100/LC4256	Y	
ispMACH 4000	LC4256 V/B/C	176 pin TQFP	PN-T176/LC4256	Y	
ispMACH 4000	LC4256 V/B/C	256 ball fpBGA	PN-F256/LC4512	Y	
ispMACH 4000	LC4256 V/B/C	256 ball ftBGA	PN-FT256/LC4000	Y	
ispMACH 4000	LC4256 V	144 pin TQFP	PN-T144/LC4128V	Y	
ispMACH 4000	LC4256 ZC	100 pin TQFP	PN-T100/LC4256	Y	
ispMACH 4000	LC4256 ZC	176 pin TQFP	PN-T176/LC4256	Y	
ispMACH 4000	LC4256 ZC	132 ball csBGA	PN-M132/LC4064ZC	Y	
ispMACH 4000	LC4384 V/B/C	176 pin TQFP	PN-T176/LC4256	Y	
ispMACH 4000	LC4384 V/B/C	256 ball fpBGA	PN-F256/LC4512	Y	
ispMACH 4000	LC4384 V/B/C	256 ball ftBGA	PN-FT256/LC4000	Y	
ispMACH 4000	LC4512 V/B/C	176 pin TQFP	PN-T176/LC4256	Y	
ispMACH 4000	LC4512 V/B/C	256 ball fpBGA	PN-F256/LC4512	Y	
ispMACH 4000	LC4512 V/B/C	256 ball ftBGA	PN-FT256/LC4000	Y	
ispPAC-CLK	ispPAC-CLK5304S	48 pin TQFP	PN-T48/CLK5312S	Y	
ispPAC-CLK	ispPAC-CLK5308S	48 pin TQFP	PN-T48/CLK5312S	Y	
ispPAC-CLK	ispPAC-CLK5312S	48 pin TQFP	PN-T48/CLK5312S	Y	
ispPAC-CLK	ispPAC-CLK5316S	64 pin TQFP	PN-T64/CLK5320S	Y	
ispPAC-CLK	ispPAC-CLK5320S	64 pin TQFP	PN-T64/CLK5320S	Y	
ispPAC-CLK	ispPAC-CLK5610AV	48 pin TQFP	PN-T48/CLK5510V	Y	
ispPAC-CLK	ispPAC-CLK5620AV	100 pin TQFP	PN-T100/CLK5520V	Y	
ispPAC-CLK	ispPAC-CLK5406D	48 pin QFNS	PN-Q48/CLK5406D	Y	
ispPAC-CLK	ispPAC-CLK5410D	64 pin QFNS	PN-S64-CLK5410D	Y	
Platform Manager	LPTM10-1247	128-pin TQFP	PN-T128-LPTM10	Y	
Platform Manager	LPTM10-12107	208-ball ftBGA	PN-FT208-LPTM10	Y	
Power Manager II	ispPAC-POWR605	24 pin QFN/QFNS	PN-N24/POWR605	Y	
Power Manager II	ispPAC-POWR607	32 pin QFN/QFNS	PN-N32/POWR607	Y	
Power Manager II	ispPAC-POWR6AT6	32 pin QFN/QFNS	PN-N32/POWR6AT6	Y	
Power Manager II	ispPAC-POWR1014	48 pin TQFP	PN-T48/POWR1014/A	Y	
Power Manager II	ispPAC-POWR1014A	48 pin TQFP	PN-T48/POWR1014/A	Y	
Power Manager II	ispPAC-POWR1220AT8	100 pin TQFP	PN-T100/POWR1220A	Y	
Power Manager	ispPAC-POWR604	44 pin TQFP	PA-T44/POWR1208	N	
Power Manager	ispPAC-POWR1208	44 pin TQFP	PA-T44/POWR1208	N	
Power Manager	ispPAC-POWR1208P1	44 pin TQFP	PA-T44/POWR1208	N	
ispGDX2	LX64 V/B/C	100 ball fpBGA	PN-F100/LX64	Y	
ispGDX2	LX128 V/B/C	208 ball fpBGA	PN-F208/LX128	Y	
ispGDX2	LX256 V/B/C	484 ball fpBGA	PA-F484/LX256	N	No longer available - part number is for reference only.
ispGDX2-E	LX64E V/B/C	100 ball fpBGA	PN-F100/LX64	Y	
ispGDX2-E	LX128E V/B/C	208 ball fpBGA	PN-F208/LX128	Y	
ispGDX2-E	LX256E V/B/C	484 ball fpBGA	PA-F484/LX256	N	No longer available - part number is for reference only.
ispGAL	ispGAL 22V10A V/B/C	28 pin PLCC	Not Available		
ispGAL	ispGAL 22V10A V/B/C	32 pin QFN/QFNS	PA-N32/22V10A	N	
ispGAL	ispGAL 22V10	28 pin PLCC	Not Available		
ispGAL	ispGAL 22V10	28 pin SSOP	Not Available		
ispGAL	ispGAL 22LV10	28 pin PLCC	Not Available		
ispGAL	ispGAL 22LV10	28 pin SSOP	Not Available		
GAL	GAL 16V8	20 pin PLCC	Not Available		
GAL	GAL 16VP8	20 pin PLCC	Not Available		
GAL	GAL 18V10	20 pin PLCC	Not Available		
GAL	GAL 20V8	24 pin PLCC	Not Available		
GAL	GAL 20VP8	24 pin PLCC	Not Available		
GAL	GAL 22V10	24 pin PLCC	Not Available		
GAL	GAL 6001	24 pin PLCC	Not Available		
GAL	GAL 6002	24 pin PLCC	Not Available		
GAL	GAL 26CV12	28 pin PLCC	Not Available		
ispLSI 1000	isp/pLSI 1016	44 pin PLCC	pDS4102-J44	N	No longer available - part number is for reference only
ispLSI 1000	isp/pLSI 1016	44 pin TQFP	pDS4102-T44/2032VE	N	No longer available - part number is for reference only
ispLSI 1000	isp/pLSI 1016E	44 pin PLCC	pDS4102-J44	N	No longer available - part number is for reference only
ispLSI 1000	isp/pLSI 1016E	44 pin TQFP	pDS4102-T44/2032VE	N	No longer available - part number is for reference only
ispLSI 1000	ispLSI 1016EA	44 pin PLCC	pDS4102-J44/1016EA	N	
ispLSI 1000	ispLSI 1016EA	44 pin TQFP	pDS4102-T44/1016EA	N	
ispLSI 1000	isp/pLSI 1024	68 pin PLCC	pDS4102-J68	N	No longer available - part number is for reference only.
ispLSI 1000	isp/pLSI 1024	100 pin TQFP	pDS4102-T100/1024	N	
ispLSI 1000	ispLSI 1024EA	100 pin TQFP	PA-T100/1024EA	N	
ispLSI 1000	isp/pLSI 1032	84 pin PLCC	pDS4102-J84	N	No longer available - part number is for reference only
ispLSI 1000	isp/pLSI 1032	84 pin PGA	Not Available		
ispLSI 1000	isp/pLSI 1032	100 pin TQFP	pDS4102-T100/2064E	N	No longer available - part number is for reference only
ispLSI 1000	isp/pLSI 1032E	84 pin PLCC	pDS4102-J84	N	No longer available - part number is for reference only
ispLSI 1000	isp/pLSI 1032E	100 pin TQFP	pDS4102-T100/2064E	N	No longer available - part number is for reference only
ispLSI 1000	ispLSI 1032EA	100 pin TQFP	pDS4102-T0/1032EA	N	
ispLSI 1000	isp/pLSI 1048	120 pin PQFP	pDS4102-Q120	N	
ispLSI 1000	isp/pLSI 1048C	128 pin PQFP	pDS4102-Q128	N	
ispLSI 1000	isp/pLSI 1048C	133 pin PGA	Not Available		

Product Family	Device	Package Type	Socket Adapter Part Number	ROHS Compliant	Notes
ispLSI 5000	ispLSI 5384V	388 ball PBGA	pDS4102-B388/5384V	N	No longer available - part number is for reference only
ispLSI 5000	ispLSI 5384V	208 ball FPBGA	pDS4102-FB208-A1	N	No longer available - part number is for reference only
ispLSI 5000	ispLSI 5384VA	208 pin PQFP	PN-Q208/5256V	Y	No longer available - part number is for reference only
ispLSI 5000	ispLSI 5384VA	272 ball PBGA	pDS4102-B272/5256V	N	No longer available - part number is for reference only
ispLSI 5000	ispLSI 5384VA	388 ball PBGA	pDS4102-B388/5384V	N	No longer available - part number is for reference only
ispLSI 5000	ispLSI 5384VA	208 ball FPBGA	pDS4102-FB208-A1	N	No longer available - part number is for reference only
ispLSI 5000	ispLSI 5512V	388 ball PBGA	pDS4102-B388/5384V	N	No longer available - part number is for reference only
ispLSI 5000	ispLSI 5512VA	208 pin PQFP	PN-Q208/5256V	Y	No longer available - part number is for reference only
ispLSI 5000	ispLSI 5512VA	272 ball PBGA	pDS4102-B272/5256V	N	No longer available - part number is for reference only
ispLSI 5000	ispLSI 5512VA	388 ball PBGA	pDS4102-B388/5384V	N	No longer available - part number is for reference only
ispLSI 5000VE	ispLSI 5128VE	128 pin TQFP	PA-T128/5256VE	N	No longer available - part number is for reference only
ispLSI 5000VE	ispLSI 5256VE	100 pin TQFP	PA-T100/5256VE	N	
ispLSI 5000VE	ispLSI 5256VE	128 pin TQFP	PA-T128/5256VE	N	No longer available - part number is for reference only
ispLSI 5000VE	ispLSI 5256VE	256 ball FPBGA	PA-LF256/5384VE	N	No longer available - part number is for reference only.
ispLSI 5000VE	ispLSI 5256VE	272 pin BGA	pDS4102-B272/5256V	N	No longer available - part number is for reference only
ispLSI 5000VE	ispLSI 5384VE	256 ball FPBGA	PA-LF256/5384VE	N	No longer available - part number is for reference only.
ispLSI 5000VE	ispLSI 5384VE	272 ball PBGA	pDS4102-B272/5256V	N	
ispLSI 5000VE	ispLSI 5512VE	256 ball FBGA	PA-LF256/5384VE	N	No longer available - part number is for reference only.
ispLSI 5000VE	ispLSI 5512VE	272 ball PBGA	pDS4102-B272/5256V	N	No longer available - part number is for reference only
ispLSI 5000VE	ispLSI 5512VE	388 ball FPBGA	PA-LF388/5512VE	N	
ispLSI 5000VE	ispLSI 5512VE	388 ball PBGA	pDS4102-B388/5384V	N	No longer available - part number is for reference only
ispMACH 5000VG	LC51024VG	484 ball fpBGA	PA-F484/LC51024	N	
ispMACH 5000VG	LC51024VG	676 ball fpBGA	PA-F676/LC51024	N	
ispMACH 5000VG	LC5768VG	256 ball fpBGA	PA-F256/LC5768	N	No longer available - part number is for reference only.
ispMACH 5000VG	LC5768VG	484 ball fpBGA	PA-F484/LC51024	N	
ispMACH 5000B	LC5128B	128 pin TQFP	PA-T128/LC5256B	N	
ispMACH 5000B	LC5256B	208 pin PQFP	PA-Q208/LC5256B	N	
ispMACH 5000B	LC5256B	128 pin TQFP	PA-T128/LC5256B	N	
ispMACH 5000B	LC5256B	256 ball fpBGA	PA-F256/LC5256B	N	No longer available - part number is for reference only.
ispMACH 5000B	LC5384B	208 pin PQFP	PA-Q208/LC5256B	N	
ispMACH 5000B	LC5384B	256 ball fpBGA	PA-F256/LC5256B	N	No longer available - part number is for reference only.
ispMACH 5000B	LC5512B	208 pin PQFP	PA-Q208/LC5256B	N	
ispMACH 5000B	LC5512B	256 ball fpBGA	PA-F256/LC5256B	N	No longer available - part number is for reference only.
ispMACH 5000B	LC5512B	484 ball fpBGA	PA-F484/LC51024	N	
ispLSI 8000	ispLSI 8600V	272 ball PBGA	pDS4102-B272/8600V	N	
ispLSI 8000	ispLSI 8600V	492 ball PBGA	pDS4102-B492/8840V	N	
ispLSI 8000	ispLSI 8840	432 ball SBGA	pDS4102-B432/8840	N	
ispLSI 8000	ispLSI 8840V	272 ball PBGA	pDS4102-B272/8600V	N	
ispLSI 8000	ispLSI 8840V	492 ball PBGA	pDS4102-B492/8840V	N	
ispLSI 8000	ispLSI 81080V	272 ball PBGA	pDS4102-B272/8600V	N	
ispLSI 8000	ispLSI 81080V	492 ball PBGA	pDS4102-B492/8840V	N	
ispGDX and ispGDXV	ispGDX 80A	100 pin TQFP	pDS4102-T100/GX80	N	
ispGDX and ispGDXV	ispGDX 80VA	100 pin TQFP	PA-T100/GX80VA	N	
ispGDX and ispGDXV	ispGDX 80VA	100 ball CBGA	Currently Not Available	N	
ispGDX and ispGDXV	ispGDX 120A	160 pin PQFP	Currently Not Available	N	
ispGDX and ispGDXV	ispGDX 120A	176 pin TQFP	pDS4102-T176/GX120	N	
ispGDX and ispGDXV	ispGDX 160V	208 pin PQFP	PN-Q208-GDX160V	Y	
ispGDX and ispGDXV	ispGDX 160V	208 ball FPBGA	PN-FB208/GX160V (was pDS4102-FB208-C1)	Y	
ispGDX and ispGDXV	ispGDX 160VA	208 pin PQFP	PN-Q208-GDX160V	Y	
ispGDX and ispGDXV	ispGDX 160VA	208 ball FPBGA	PN-FB208/GX160V (was pDS4102-FB208-C1)	Y	
ispGDX and ispGDXV	ispGDX 240VA	388 ball FPBGA	PA-FB388/GX240VA	N	
ispPAC-CLK5000V	ispPAC-CLK5510V	48 pin TQFP	PN-T48/CLK5510V	Y	
ispPAC-CLK5000V	ispPAC-CLK5520V	100 pin TQFP	PN-T100/CLK5520V	Y	
ispPAC-CLK5000V	ispPAC-CLK5610V	48 pin TQFP	PN-T48/CLK5510V	Y	
ispPAC-CLK5000V	ispPAC-CLK5620V	100 pin TQFP	PN-T100/CLK5520V	Y	

Notes:
(1) Socket adapter includes an internal voltage regulator for 1.2V programming support.
(2) For all MachXO2 Socket Adapters, set JP (VCore) to select target voltage as follows: HC = 1.8V = JP: 2-3 HE = 1.2V = JP: 1-2 ZE = 1.2V = JP: 1-2 Jumper J1 (VccIO) should be set to position 2-3 Jumper postion "1" is closest to the > mark on the Socket Adapter Board
(3) iCE socket adapters are not compatible with the Lattice Model300 programmer. iCE socket adapters require the iCEprog programmer (ICEPROGM1050-01).