


High Performance E2 CMOS PLD Generic Array Logic

Manufacturer:	Lattice Semiconductor Corp
Package/Case:	QFP48
Product Type:	Programmable Logic ICs
RoHS:	RoHS Compliant/Lead free 
Lifecycle:	Active



Images are for reference only

[Inquiry](#)

General Description

The high performance ispMACH 4000 family from Lattice offers a SuperFAST CPLD solution. The family is a blend of Lattice's two most popular architectures: the ispLSI® 2000 and ispMACH 4A. Retaining the best of both families, the ispMACH 4000 architecture focuses on significant innovations to combine the highest performance with low power in a flexible CPLD family.

The ispMACH 4000 combines high speed and low power with the flexibility needed for ease of design. With its robust Global Routing Pool and Output Routing Pool, this family delivers excellent First-Time-Fit, timing predictability, routing, pin-out retention and density migration.

The ispMACH 4000 family offers densities ranging from 32 to 512 macrocells. There are multiple density-I/O combinations in Thin Quad Flat Pack (TQFP), Chip Scale BGA (csBGA) and Fine Pitch Thin BGA (ftBGA) packages ranging from 44 to 256 pins/balls. Table 1 shows the macrocell, package and I/O options, along with other key parameters.

The ispMACH 4000 family has enhanced system integration capabilities. It supports 3.3V (4000V), 2.5V (4000B) and 1.8V (4000C/Z) supply voltages and 3.3V, 2.5V and 1.8V interface voltages. Additionally, inputs can be safely driven up to 5.5V when an I/O bank is configured for 3.3V operation, making this family 5V tolerant. The ispMACH 4000 also offers enhanced I/O features such as slew rate control, PCI compatibility, bus-keeper latches, pull-up resistors, pull-down resistors, open drain outputs and hot socketing. The ispMACH 4000 family members are 3.3V/ 2.5V/1.8V in-system programmable through the IEEE Standard 1532 interface. IEEE Standard 1149.1 boundary scan testing capability also allows product testing on automated test equipment. The 1532 interface signals TCK, TMS, TDI and TDO are referenced to VCC (logic core).

Recommended For You

LC5512MV-45F256C

Lattice Semiconductor Corp

BGA

PALCE22V10Q-25PC/4

Lattice Semiconductor Corp

DIP

LC4032V-75TN48I

Lattice Semiconductor Corp

QFP48

PALCE16V8H-15JC/4

Lattice Semiconductor Corp
PLCC20

PALCE22V10H-10JC/5

Lattice Semiconductor Corp
PLCC28

PALCE16V8H-7PC/5

Lattice Semiconductor Corp
DIP20

PALCE20V8H-15JC/4

Lattice Semiconductor Corp
PLCC

PALCE16V8H-5JC/5

Lattice Semiconductor Corp
PLCC20

PALCE22V10H-7PC/5

Lattice Semiconductor Corp
DIP

PALCE22V10H-15JC/4

Lattice Semiconductor Corp
PLCC28

LCMXO2-1200HC-6SG32C

Lattice Semiconductor Corp
QFN32

LC4032V-75T48C

Lattice Semiconductor Corp
TQFP48

LC4512V-5FN256C

Lattice Semiconductor Corp
BGA

LCMXO640C-3TI44C

Lattice Semiconductor Corp
QFP144

LCMXO2280C-3MI32C

Lattice Semiconductor Corp
QFN16