CPLD ispMACH 4A Family 1.25K Gates 32 Macro Cells 83.3MHz/118MHz 3.3V 44-Pin TQFP Tray

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Manufacturer:	Lattice Semiconductor Corp
Package/Case:	QFP44
Product Type:	Programmable Logic ICs
RoHS:	RoHS Compliant/Lead free RoHS
Lifecycle:	NRND

Images are for reference only

Inquiry

General Description

The ispMACH™ 4A family from Lattice offers an exceptionally flexible architecture and delivers a superior Complex Programmable Logic Device (CPLD) solution of easy-to-use silicon products and software tools. The overall benefits for users are a guaranteed and predictable CPLD solution, faster time-to-market, greater flexibility and lower cost. The ispMACH 4A devices offer densities ranging from 32 to 512 macrocells with 100% utilization and 100% pin-out retention. The ispMACH 4A families offer 5-V (M4A5-xxx) and 3.3-V (M4A3-xxx) operation.

ispMACH 4A products are 5-V or 3.3-V in-system programmable through the JTAG (IEEE Std. 1149.1) interface. JTAG boundary scan testing also allows product testability on automated test equipment for device connectivity.

All ispMACH 4A family members deliver First-Time-Fit and easy system integration with pin-out retention after any design change and refit. For both 3.3-V and 5-V operation, ispMACH 4A products can deliver guaranteed fixed timing as fast as 5.0 ns tPD and 182 MHz fCNT through the SpeedLocking feature when using up to 20 product terms per output.

The ispMACH 4A family offers 20 density-I/O combinations in Thin Quad Flat Pack (TQFP), Plastic Quad Flat Pack (PQFP), Plastic Leaded Chip Carrier (PLCC), Ball Grid Array (BGA), finepitch BGA (fpBGA), and chip-array BGA (caBGA) packages ranging from 44 to 388 pins (Table 3). It also offers I/O safety features for mixed-voltage designs so that the 3.3-V devices can accept 5-V inputs, and 5-V devices do not overdrive 3.3-V inputs. Additional features include BusFriendly inputs and I/Os, a programmable power-down mode for extra power savings and individual output slew rate control for the highest speed transition or for the lowest noise transition.
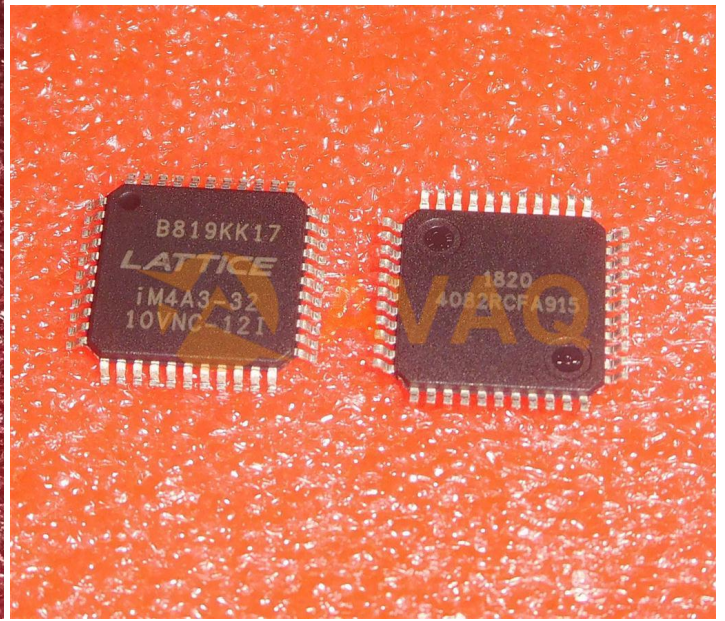
Recommended For You

M4A3-256/128-7FAC

Lattice Semiconductor Corp

BGA256

M4A3-512/160-10YC

Lattice Semiconductor Corp

QFP

M4A5-96/48-55VNC

Lattice Semiconductor Corp

TQFP100

iCE40LP1K-CM49TR

Lattice Semiconductor Corp

BGA

M4A5-64/32-10VI48

Lattice Semiconductor Corp

48-LQFP

M4A5-64/32-12VI48

Lattice Semiconductor Corp

QFP48

M4A3-256/128-10YC

Lattice Semiconductor Corp

QFP

M4A5-96/48-10VNI

Lattice Semiconductor Corp

20

M4A3-256/128-10FAC

Lattice Semiconductor Corp

BGA

M4A3-192/96-12VNI

Lattice Semiconductor Corp

144-LQFP

M4A3-64/32-55VNC

Lattice Semiconductor Corp

TQFP44

M4A5-192/96-7VC

Lattice Semiconductor Corp

TQFP-144

M4A3-512/160-14YI

Lattice Semiconductor Corp

208-BFQFP

M4A3-256/128-10YNI

Lattice Semiconductor Corp

PQFP208

M4A3-32/32-10VNI48

Lattice Semiconductor Corp

LQFP-48