




LatticeECP3 Low-Power, High-Speed & Mini Devices

New Devices for Power-Efficient and Compact Products

The new Low Power, High Speed, and Mini LatticeECP3 FPGAs allow designers to build the emerging class of compact products capable of processing high-speed Video and Internet data. The LatticeECP3 Low Power FPGAs consume on the average 30% lower power compared to the standard devices while operating at the same frequency. The LatticeECP3 High Speed FPGAs (-9) run 10% faster than the current highest speed grade (-8) devices. The Mini FPGA with SERDES is 66% smaller than the standard LatticeECP3 device of the same logic capacity. These devices bring high-end innovations such as configurable SERDES, cascadable DSP slices, high-speed DDR3 memory interface, and programmable fabric to consumer product design. The devices are ideal for power and space limited applications in professional cameras, surveillance cameras, medical imaging, video communication, and small-form-factor wireline and wireless appliances.

New LatticeECP3 Low-Power, High-Speed & Mini FPGAs

LatticeECP3 FPGAs	Key Features and Benefits	Applications
LatticeECP3 Low Power 	<ul style="list-style-type: none"> • 40% Lower Static Power • 30% Lower Total Power • -6L, -7L, -8L Speed-Power Grades • 3.2 Gbps SERDES • 320 DSP Slices • 800 Mbps DDR3 • Superior SSO 	<ul style="list-style-type: none"> • Professional Cameras & Portable Displays • Compact Consumer Products • Field Communication Products
LatticeECP3 High Speed 	<ul style="list-style-type: none"> • 10% Higher Performance • -9 High Speed Grade • 3.2 Gbps SERDES • 320 DSP Slices • 800 Mbps DDR3 • Superior SSO 	<ul style="list-style-type: none"> • Timing Challenged Designs • Video & Graphics Processing • Network Switching & Routing
LatticeECP3 Mini Device 	<ul style="list-style-type: none"> • 66% Smaller • 10mm x 10mm Package • 0.5mm Pitch • 116 User I/Os • 328csBGA Package • 3.2 Gbps SERDES • 24 DSP Slices • 800 Mbps DDR3 • Superior SSO 	<ul style="list-style-type: none"> • Broadcast Cameras • Surveillance Cameras • Pluggable Transceivers

Low-Power, Mid-Range FPGAs with SERDES and DDR3

The LatticeECP3 Low Power devices consume 40% less static power compared to the corresponding standard FPGAs. This results in up to 30% lower total power consumption compared to the competing devices in the mid-range FPGA category. Low Power versions of each family member are available including each existing speed grade (-6L, -7L, -8L) and for both 'Commercial' and 'Industrial' temperature grades. The Low Power devices are the industry's lowest power mid-range FPGAs with high-quality 3.2G SERDES, up to 320 DSP slices, and high-speed DDR3 memory interface. They bring the flexibility of FPGAs to power-constrained professional consumer, communication, and video applications.



High-Speed Mid-Range FPGAs for Complex Designs

The High Speed LatticeECP3 devices are 10% faster than the current highest speed-grade (-8) LatticeECP3 FPGAs. The High Speed devices (-9) are available for the four members of the LatticeECP3 family (35K, 70K, 95K, and 150K LUT FPGAS) in both the 'Commercial' and 'Industrial' temperature grades. These high-speed devices enable designers to route complex FPGA designs, where a specific application or critical path has a time dependent requirement that cannot be facilitated by standard devices.



Industry's Tiniest Package with SERDES for Compact Products

The LatticeECP3 Mini is the industry's tiniest FPGA with high-speed 3.2 G SERDES and 800 Mbps DDR3 memory interface. The 10mm x 10mm device with 17K LUTs and 116 user input/output is 66% smaller than the current LatticeECP3 FPGA of the same logic density. The Mini FPGA with SERDES is ideal for space-limited applications that need to process high-speed Video and Internet data. The LatticeECP3 Mini FPGAs are available in all three speed grades (-6, -7, -8), two power grades (Standard and Low-Power) and both temperature grades ('Commercial' and 'Industrial'). These "Mini" FPGAs will allow designers across industries to build size, weight, power, and cost (SWaP-C) constrained embedded systems.



Quick Links

DATASHEET

<http://www.latticesemi.com/documents/ds1021ea.pdf>

LatticeECP3 FAMILY

www.latticesemi.com/ecp3

LATTICE DIAMOND® SOFTWARE

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