



FPGA SOLUTIONS

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POLARFIRE RISC-V

The KINESIS system-on-chip (SoC) module is built on the new **Microchip®’s PolarFire® SoC-series device**. It is based on a RISC-V architecture with fast LPDDR4 ECC SDRAM, eMMC flash, SPI flash, Gigabit Ethernet PHY, USB 2.0 PHY, in a **powerful and compact Sodimm4 form factor board**.



FEATURES

- Microsemi PolarFire SoC FPGA (MPFS025T, MPFS095T, MPFS160T, MPFS250T) from 23KLE to 254KLE
- Up to 784 DSP Block on FPGA Fabric
- 4x SERDES 12.5Gbit/s
- Quad 64-bit RV64GC cores, 667 MHz
- 64-bit RV64IMAC monitor core, 667 MHz
- Up to 2Gbyte LPDDR4
- Onboard Gigabit Ethernet PHY
- USB 2.0 OTG
- 128 Mbit to 1Gbit NOR Flash
- 8 - 64 GByte eMMC memory

BENEFITS

- Low-Power**
 - Low device static power
 - Low inrush current
 - Low-power transceivers
- Reliability**
 - Built-in SECDED and memory interleaving on FPGA fabric LSRAMs
 - SECDED on all processor memories
 - System controller suspend mode for safety-critical designs
- Security**
 - Cryptography Research Incorporated bitstream protection
 - Integrated dual physically unclonable function (PUF)
 - 56 KB of secure, non-volatile memory (sNVM)
 - Built-in tamper detectors and countermeasures

TARGET APPLICATIONS

Embedded Computing	Smart Embedded Vision	Industrial Automation	Internet of Things	Data Acquisition	High-Speed Communications	Drive/Motion Control	Digital Signal Processing	Image Processing

