

# MitySOM-5CSE (P/N 5CSE-L2-3Y8-RC)

**Minimize your risk.**

**Lower your costs.**

**Reduce development time.**

**Improve application performance.**

**Differentiate your products.**

The MitySOM-5CSE is a highly configurable, small form-factor System-on-Module (SOM) designed for high-throughput applications requiring a hard-core Cortex-A9 applications processor tightly integrated with FPGA fabric. The MitySOM-5CSE combines the Altera Cyclone V System-on-Chip (SoC), memory subsystems, and onboard power supplies. The MitySOM-5CSE provides a complete and flexible CPU + FPGA infrastructure for highly integrated embedded systems.



5CSX-H6-42A-RC module pictured here. Actual Size.

## With a fully integrated System-on-Module built for high-throughput applications:

- Based on an Altera Cyclone V System on Chip
- Combines FPGA fabric and ARM Cortex-A9
- High-bandwidth interconnect
- Integrated with:
  - DDR3 SDRAM
  - NOR FLASH
  - Power supplies
  - JTAG
  - Convenient card-edge interface

### Features:

#### Hard Processor System (HPS)

- Single-core ARM Cortex – A9 MPCore processor, 600MHz
- NEON coprocessor with double-precision FPU
- 32KB/32KB L1 caches
- 512KB shared L2 cache
- 25K Logic Elements

#### Memory

- 512MB DDR3 CPU/FPGA RAM
- 16MB QPSI NOR FLASH

#### High-Bandwidth System Interfaces:

- 133 I/O
- 2 Gigabit Ethernet interfaces

#### High-Bandwidth On-Chip Interfaces

- 102Gbps HPS-to-FPGA interface
- 102Gbps FPGA-to-SDRAM Interface

#### Integrated Power Management

#### JTAG Connector On-Module

#### Card-Edge Interface

#### High Level OS Support

- Linux
- Micrium uC/OS
- Android
- QNX
- Windows CE

### Applications:

- Machine Vision
- Scientific Imaging
- Motor Control
- Medical Imaging
- Medical Instrumentation
- Test and Measurement
- Industrial Instrumentation
- Military/Aerospace

### Growth Options

The MitySOM-5CSE and the MitySOM-5CSX offer several upgrade options: various speed grades, memory configurations, and operating temperature.

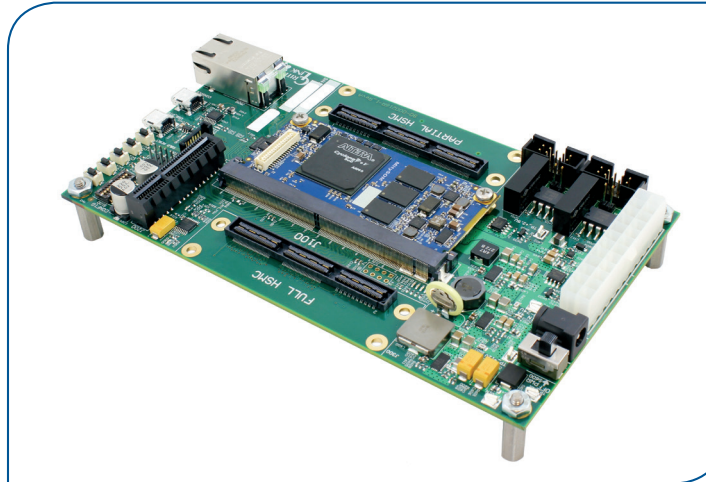
**MSRP \$199  
@ Quantity 100**

# MitySOM-5CSE Development Kit (P/N 80-000708)



## High-Speed Interfaces and Interconnect

Integrating FPGA power with ARM flexibility poses a major challenge: data movement between the two. The MitySOM-5CSE solves this with high-speed AXI bus interconnects between FPGA fabric and the Hard Processor System (HPS). The FPGA also has high-bandwidth access to HPS system memory, while maintaining cache coherency without processor intervention. The MitySOM-5CSE's high-speed interfaces are configurable. By combining the high-speed interconnect with 640Mbps SerDes-capable I/O's and dual gigabit Ethernet interfaces, the system supports high-bandwidth I/O, while efficiently processing data onboard.



## The MitySOM-5CSE DEVELOPMENT KIT SOFTWARE

The MitySOM-5CSE development kit comes with all the software to get up and running quickly and easily

- Linux Operating System is pre-loaded onto the SD card and will boot to a Linux prompt automatically upon power-up
- Virtual Machine Image provided on a USB drive; installed development tools include Quartus, Qsys, ARM DS5 (evaluation versions) & GNU Toolchain
- uBoot, Linux kernel, and sample ARM& FPGA source code is pre-loaded
- Sample projects available to be used as a starting point for your application

## Development Kit Features

- 4" x 7"
- 18V to 24V input or standard ATX
- Battery for real-time clock
- 3 user switches
- On/off, warm reset, cold reset switches
- Boot select switches
- Footprint for FPGA serial PROM

## Interfaces

- Gigabit Ethernet
- HSMC interfaces (x2)
- USB OTG
- Console serial to USB converter
- Isolated CAN Bus (x2)
- SD card

**MSRP \$499**  
**Development Kit**  
**(P/N 80-000708)**

