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## MitySOM-335x Cortex-A8 with NEON SIMD Coprocessor SoM





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#### / OVERVIEW

The MitySOM-335x family of highly configurable, small form-factor processor cards feature a Texas Instruments Sitara AM335x Processor. The modules include NAND FLASH and DDR2 or DDR3 RAM memory subsystems, providing a complete and flexible CPU infrastructure for highly integrated embedded systems. Additional options include built-in WiFi and Bluetooth capability.

The onboard AM335x processor provides Cortex-A8 32-bit RISC processor with a NEON SIMD coprocessor and optional 3D graphics accelerator. This MPU is capable of running a rich set of real-time operating systems containing software applications programming interfaces (APIs) expected by modern system designers. The ARM architecture supports several operating systems, including Linux, QNX, and Windows Embedded Compact.

Critical Link's MitySOM-335x family of modules uses Texas Instruments AM3352, AM3354, and AM3359 processors. Click the diagram below to view the differences between these processors.



# / APPLICATIONS

- Embedded Instrumentation
- Industrial Automation
- Industrial Instrumentation
- Medical Instrumentation
- Weighing Scales
- Network Enabled Data Acquisition
- Test and Measurement
- Closed Loop Motor Control
- Smart Toll Systems
- Portable Data Terminals

#### / TECHNICAL DOCUMENTS

- MitySOM-335x Overview
- MitySOM-335x Data Sheet
- Carrier Board Design Guide
- TI AM3359 Data Sheet

# / SPECIFICATIONS

#### CPU

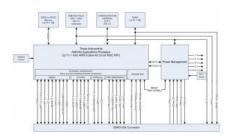
| TI Applications Processor | Cortex-A8 32-Bit RISC MPU                          |
|---------------------------|--|
| Max CPU Speed             | 1GHz   |
| L1 Program Cache          | 32KB   |
| L1 Data Cache             | 32KB   |
| L2 Cache                  | 256KB  |
| Internal RAM              | 64KB   |
| Graphics                  | SGX530 3D Graphics Engine (AM3354 and AM3359 only) |
| PRUSS                     | 2 Programmable Real-time Units (AM3359 only)       |
|                           |  |

| 1                 | ı                      |  |
|-------------------|------------------------|--|
| Emulation / Debug | JTAG                   |  |
|                   | Emulation Trace Module |  |
|                   | Emulation Trace Buffer |  |

# MEMORY

| RAM                   | Up to 1GB |
|-----------------------|-----------|
| NOR Flash (Optional)  | 8MB       |
| NAND Flash (Optional) | Up to 1GB |

## / BLOCK DIAGRAM

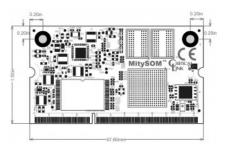


# / INTERFACES

| 10/100/1000 EMAC (2) | McASP (2) | eHRPWM (3)     |
|----------------------|-----------|----------------|
| 24-bit WXGA LCD      | McSPI (2) | CAN (2)        |
| USB (2)              | I2C (2)   | RTC            |
| UART (6)             | eCAP (3)  | Watchdog Timer |
| MMC/SD/SDIO (3)      | eQEP (3)  |                |

# / MECHANICAL

| Dimensions  | Length | Width |
|-------------|--------|-------|
| Inches      | 2.66   | 1.5   |
| Millimeters | 67.60  | 38.10 |



# / DEVELOPMENT KITS

- MitySOM-335x Development Kit
- MitySOM-335x Display and WiFi Development Kit

#### / DEVELOPMENT TOOLS AND SOFTWARE

## SOFTWARE SUPPORT

- Real-time Linux Operating System
- uBoot
- ThreadX RTOS from ExpressLogic
- TimeSys LinuxLink
- QNX Real-time Operating System Capable
- Windows Embedded Capable
- Qt Embedded Graphics

# DEVELOPMENT TOOLS

- Texas Instruments Code Composer Studio
- GNU Toolchain

# / TECHNICAL SUPPORT

Our customers benefit from engineering and applications support for the life of their product. This includes free, lifetime access to our technical support site, as well as access to application engineering resources and other services.

- Visit our MitySOM Cortex-A8 Wiki to access:
  - Linux OS and board support package details, including source code
  - Product change notices
  - Base board design guide
  - Development kit base board design files
  - Software guide to getting started, tool chain, tips and how-to's
  - Hardware power draw, pin outs, shock and vibration, CAD files, mechanical drawings and
  - o Frequently asked questions
- Visit our MitySOM Cortex-A8 Forum to access:
  - Software, Hardware, and FPGA forums
- TI Cortex-A8 Wiki
- TI E2E Forums

Critical Link's embedded design team also offers engineering services and other support options such as:

- Schematic design review for customer designed carrier boards
- Complete design review services
- Software development services, including custom BSP development
- Base board development services
- $\bullet \ \ \text{Systems Engineering, Software, and Hardware Design to support your project anywhere in the}\\$ product development lifecycle

Contact us for more information on these services.

# / VIDEO / RELATED PRODUCTS / PURCHASE

| Module P/N     | СРИ    | NOR | NAND  | RAM        | Temperature  |
|----------------|--------|-----|-------|------------|--------------|
| 3354-IX-X3A-RC | 1GHz   | N/A | 512MB | 1GB DDR3   | 0C to +70C   |
| 3354-IX-X38-RC | 1GHz   | N/A | 512MB | 512MB DDR3 | 0C to +70C   |
| 3352-IX-X3A-RC | 1GHz   | N/A | 512MB | 1GB DDR3   | 0C to +70C   |
| 3354-HX-X38-RI | 800MHz | N/A | 512MB | 512MB DDR3 | -40C to +85C |
| 3354-HX-X38-RC | 800MHz | N/A | 512MB | 512MB DDR3 | 0C to +70C   |
| 3352-HX-X38-RC | 800MHz | N/A | 512MB | 512MB DDR3 | 0C to +70C   |
| 3352-HX-X27-RI | 800MHz | N/A | 512MB | 512MB DDR3 | -40C to +85C |
| 3352-HX-X27-RC | 800MHz | N/A | 256MB | 256MB DDR3 | 0C to +70C   |
| 3352-HX-XX7-RI | 800MHz | N/A | N/A   | 256MB DDR3 | -40C to +85C |
| 3352-HX-XX7-RC | 800MHz | N/A | N/A   | 256MB DDR3 | 0C to +70C   |
| 3354-GX-X38-RC | 720MHz | N/A | 512MB | 512MB DDR3 | 0C to +70C   |
| 3352-GX-X27-RC | 720MHz | N/A | 256MB | 256MB DDR3 | 0C to +70C   |
| 3359-GX-226-RC | 720MHz | 8MB | 256MB | 256MB DDR2 | 0C to +70C   |
| 3359-GX-226-RL | 720MHz | 8MB | 256MB | 256MB DDR2 | -40C to +70C |
| 3354-GX-XX7-RC | 720MHz | N/A | N/A   | 256MB DDR3 | 0C to +70C   |

Click here for MitySOM-335x modules including built-in WiFi and Bluetooth capability.

\*Note: The selected distributor does not yet carry this model. You may contact them for ordering information, or submit a request directly to Critical Link.



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