

Published on EMAC Inc. (https://www.emacinc.com)

Source URL: https://www.emacinc.com/content/som-3354-1

SoM-3354M ARM System on Module



nage not round ile://var/www/html/emacinc-com/sites/default/files/EMAC%200EN%20LOGO-web-opt-500x450px_15.png

TI AM335x ARM Cortex-A8 processor up to 1GHz.

- ?TI AM3354 1GHz ARM Cortex-A8 processor
- TI AM3359 800MHz ARM Cortex-A8 processor (Optional)

200 pin SODIMM form factor with the height dimension extended (2.66" x 2.375")

Wide Temperature -40 to +85

512MB of DDR3L SDRAM

16MB Serial Data Flash

4GB of eMMC Flash

4x Serial Ports with RTS/CTS Handshake

1 CAN Port (transceiver on carrier)

- 16-bit TFT LCD interface
- I2C hardware port
- 2x USB 2.0 High speed Host ports
- 1x USB 2.0 High speed OTG (Host or Device)
- Synchronous I2S analog audio interface port
- 10/100 BaseT Ethernet with on-board KSZ8041 PHY (External magnetics & status LEDs)
- Oscillator shutdown & Interrupt for PHY
- AM3359 processor option includes:
 - ?Industrial protocols: EtherCAT, EtherNet/IP, PROFIBUS, PROFINET RT/IRT, SERCOS III (may require custom carrier to fully support)
 - Programmable Real-Time Unit Subsystem and Industrial Communication Subsystem (PRU-ICSS) Coprocessor
- Real Time Clock Internal with battery backed provision
- 3.3 Volt source voltage with on-board core/memory regulators
- Provision for external 3.3 Volt Lithium Battery
- 4, 12-bit A/D inputs
- Internal Resistive Touchscreen Controller
- External MMC/SD card interface with card detect
- 2x SPI port with 4 slave selects
- 2x Timer/Counters/PWM
- Status on module LED
- RoHS 2 (2011) compliance
- Extended Temperature
- RoHS 2 (2011) compliance

The SoM-3354 is an ARM System on Module (SoM) based on the TI AM3354 Cortex-A8 processor. Designed and manufactured in the USA, this wide temperature 1GHz SoM utilizes 16MB of Serial Data Flash, 4GB of eMMC Flash (up to 16GB optional) and has 512MB of DDR3 RAM. Additional Flash storage can be had using the modules SDIO interface allowing the use of external SD flash cards.

The SoM-3354 has 4x Serial Ports, 10/100 BaseT Ethernet, 2x USB 2.0 High Speed Host Ports, 1x USB 2.0 High Speed Host/Device Port, 4x channels of 12 bit A/D, 4-Wire Resistive Touch Controller, and a 16-bit LCD Controller. The module also features an External Address/Data Bus for easy expansion, an Internal Real Time Clock/Calendar with external battery backup provision, 22x GPIO Lines, and 2x Timer/Counters/PWM. The SoM-3354 has 1x Synchronous Serial I/O (I2S) Audio port, 2x SPI Ports with 4 slave selects, 1x I2C Port, 1x CAN Ports, SDIO, and on module status (software controlled) LED.

Using the same small 200 pin SODIMM form-factor utilized by other EMAC SoM modules, the SoM-3354 is the ideal processor engine for

your next design. All of the ARM processor core functionality is included on this tiny board including: Flash, Memory, Serial Ports, Ethernet, I2S Audio, PWMs, Timer/Counters, A/D, digital I/O lines, Clock/Calendar, and more.

The SoM-3354 is designed to plug into a carrier board that contains all the connectors and any custom I/O required for the application. This approach allows the customer or EMAC to design a custom carrier board that meets the I/O, dimensional, and connector requirements without having to worry about the processor, memory, and standard I/O functionality. With this System on Module approach, a semi-custom hardware platform can be developed in as little as a month.

In addition to the option of the developing a custom carrier board, one can be purchased off-the-shelf from EMAC. EMAC provides off-theshelf Carrier boards that feature A/D, D/A, MMC/SD card, keypad, LCD, Audio, and Modem interfaces. The recommended off-the-shelf

carrier board for the SoM-3354 is the SoM-200GS or SOM-250GS which allows you to immediately start coding your application using

EMAC OE Linux and Qt Development tools.

Specifications SOM Type: Microcontroller SODIMM Modules

Processor TI AM3354 ARM Cortex-A8 1 GHz processor Clock Speed: 1 GHz Real Time Clock:

Memory Prinnary Frash: 4GB of eMMC Flash Secondary Flash: 16MB of Serial Data Flash Memory Misc.: 16 GB eMMC Flash upgrade

G Primary I/O 22x GPIO (3.3V) Lines SDIO: 1x SDIO Port Video Out: 3D Video 16-bit LCD Controller with Touch Screen SPI: 2x SPI ports with 4 slave selects Audio: 1 I2S Audio port Ethernet: 10/100 BaseT Ethernet USB: 2x USB 2.0 High Speed Host Ports 1x USB 2.0 High speed OTG (Host or Device) Serial Ports: 4x Serial Ports (1x with full handshake 3x with RTS/CTS handshake) I2C: 1x I2C hardware port Watchdog: Primary I/O Misc.: Ethernet: on-board KSZ8041 PHY (External magnetics & status LEDs)

Secondary I/O CAN. 1x CAN 2.0B Port Timers/ Counters/ PWM: 2x Timer/Counters/PWM LPT Port: Keypad: PS/2: Touch: 4-wire Resistive Touch Controller

A/D A/D A/D Channels: 8 A/D Resolution: 12 bit D/A: Analog Misc.: Analog I/O: 8x A/D Channels with 12-bit A/D Converter - 4 Channels are utilized for the 4-wire resistive touchscreen interface

Dimensions 2.66×2.375 in Form Factor: 200-pin SODIMM Power Requirements 3.3 V Environmental Pricing Solvi-Job-tM-140 SOM-3354, TI AM3354 ARM-A8, 512MB RAM, 4GB eMMC Flash, 16MB Serial Data flash, 4x COM, 3x USB2, 10/100 ETH, Video (-40 to +85) \$160.00 Stock Order: 0 Base Product: SoM-3354M

SOM-3354, TI AM3354 ARM-A8, 512MB RAM, 4GB eMMC Flash, 16MB Serial Data flash, 2x COM, 3x USB2, 10/100 ETH, Video (-40 to +85) \$150.00 Build to Order Order: 0 Base Product: SoM-3354M Non-Stock NCNR: 0 Carrier Boards: SoM-200GS-000 Standard 200-pin Carrier with SD Card, Audio, CAN, PLD & 4.3" LCD \$245.00 Base Product: SoM-200GS SoM-200GS-001 Deluxe 200-pin Carrier with WiFi, Audio, CAN, PLD & 4.3" LCD, without SD Card Socket \$295.00 Base Product: SoM-200GS SoM-200GS-007 Bare Bones 200-pin Carrier w/SD Card & CAN, without Audio, PLD & LCD \$145.00 Base Product: SoM-200GS SoM-212ES-000 Standard Carrier Board with Touch Screen \$175.00 Base Product: SoM-212ES SoM-212ES-003 Deluxe Carrier Board with Touch Screen, POE, and Stereo Audio \$225.00 Base Product: SoM-212ES SoM-212ES-007 Bare Bones Carrier Board \$110.00 Base Product: SoM-212ES SoM-250GS-000 Standard Carrier Board with CAN, Audio, 7" LCD & Touch Screen, WiFi \$399.00 Base Product: SoM-250GS SoM-250GS-001 Deluxe Carrier Board with CAN, Audio, 10" LCD & Touch Screen, WiFi \$399.00 Base Product:

SoM-3354M-141

SoM-250GS SoM-250GS-007 Bare-Bones Carrier Board with CAN, Audio, WiFi, without LCD \$250.00 Base Product: SoM-250GS

Source URL: https://www.emacinc.com/content/som-3354-1