SoM-3517 ARM System on Module

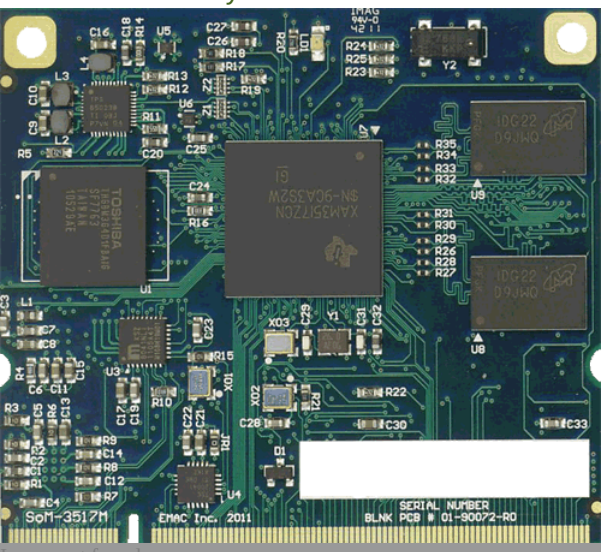
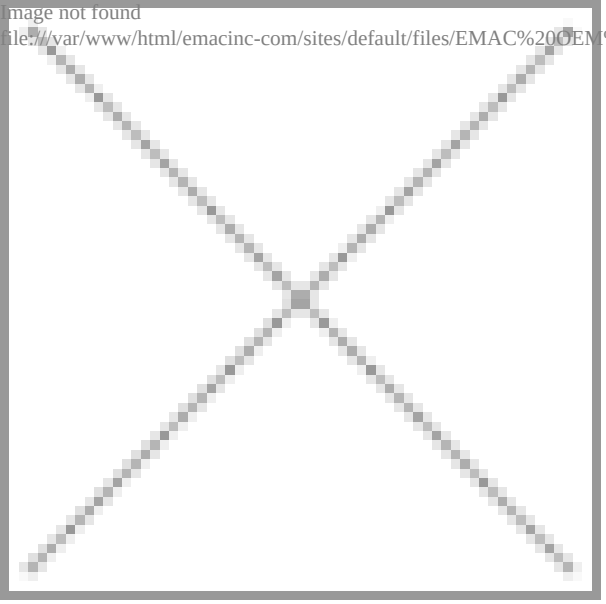


Image not found
file:///var/www/html/emacinc-com/sites/default/files/EMAC%20EM%20LOGO-web-opt-500x450px_17.png



Small, 200-pin SODIMM form factor (2.66" x 2.375")

Embedded TI AM3517 ARM Cortex-A8, with Neon Math Co-processor

Up to 512 MB of DDR2 SDRAM

Up to 1 GB of NAND Flash

UP to 4GB of eMMC Flash

Neon Vector Floating Point Unit

Processor Bus Expansion

24-bit DSTN/TFT LCD Interface

2D/3D Accelerated HD Video up to 2048 x 2048

12-bit 4-Wire Analog Resistive Touch Screen Interface

10/100 BaseT Ethernet

4x Serial Ports

1x CAN 1.0b Port

2x USB 1.1/2.0 High Speed Host Ports

1x USB 2.0 High Speed OTG (Host/Device) Port

2x I2C

2x SPI Ports

1x I2S Audio Port

High-End CAN Controller CAN 2.0B Controller

Timer/Counters and Pulse Width Modulation (PWM) ports

2x A/D Channels with 12-bit A/D Converter

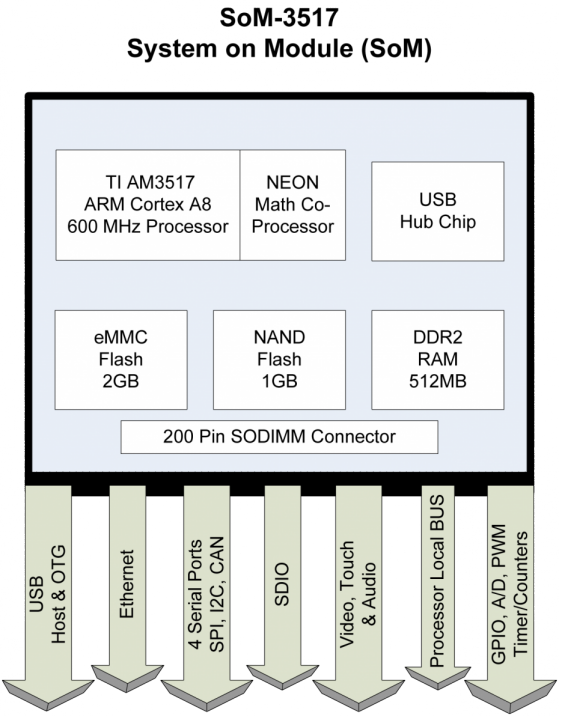
On-module Temperature Sensor

Linux, Real Time Linux

Robust, Free Eclipse Development Tools

RoHS 2 (2011) compliance

The SoM-3517M is based on the TI ARM Cortex-A8 processor. This fanless ARM Cortex, 600 MHz SoM has an Ethernet PHY included along with 4 serial ports. It utilizes up to 512MB of external DDR2 / SDRAM, 1GB of NAND Flash, up to 2GB of eMMC Flash, and includes an MMU which allows it to run Linux and WindowsCE Operating Systems. A SoM is a small embedded module that contains the core of a microprocessor system.



Using the same small 200 pin SODIMM form-factor utilized by other EMAC SoM modules, the SoM-3517M is the ideal processor engine for your next design. All of the ARM processor core is included on this tiny board including: Flash, Memory, Serial Ports, Ethernet, SPI, I2C, I2S Audio, CAN 2.0B, PWMs, Timer/Counters, A/D, digital I/O lines, video, Clock/Calendar, and more. The SoM-3517M additionally provides a math coprocessor, and 2D/3D accelerated video and image scaling/rotation.

The SoM-3517M 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 customer's 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 Carrier board, one can be purchased off-the-shelf from EMAC. EMAC provides off-the-shelf Carrier boards that feature A/D, D/A, MMC/SD card, keypad, LCD, Touchscreen, and Audio interfaces. The recommended off-the-shelf Carrier Board for the SoM-3517 is the SoM-250ES which allows the user to immediately start coding their application using the powerful Linux Operating Systems and Tools.

The System on Module approach provides the flexibility of a fully customized product at a greatly reduced cost. The SoM-3517M is ideal for any Web/Network, Data Acquisition and Control or User Interface application.

Specifications

SOM Type:
Microcontroller SODIMM Modules

Processor

Processor:
Embedded TI AM3517 ARM Cortex-A8 with Neon Math Co-processor
Clock Speed:
600 MHz
Real Time Clock:

Memory

BIOS/ Bootloader:
Resident Flash Bootloader (uboot with extensions)
Primary Flash:
Up to 4GB of eMMC
Memory Misc.:
Up to 4GB of eMMC option available (MOQ may apply)

Up to 512MB RAM

Primary I/O

GPIO:
16x General Purpose I/O (additional GPIOs can be made available)
Disk Interface:
Up to 1 GB of NAND Flash
UP to 4GB of eMMC Flash

Video Out:
LCD Video Interface with HD resolution up to 2048 x 2048 with 2D/3D acceleration
SPI:
2x SPI High-Speed Ports with Chip Selects.
Audio:
I2S Synchronous Serial Controllers with analog interface support
Ethernet:
10/100 BaseT Ethernet
USB:
2x USB 1.1/2.0 High Speed Host Ports
1x USB 2.0 High Speed OTG (Host/Device) Port
Serial Ports:
4x Serial Ports
I2C:
2x I2C Ports
Watchdog:

Secondary I/O

CAN:
1x CAN 2.0B Port
Timers/ Counters/ PWM:
11x General Purpose Timers
LPT Port:
Keypad:
PS/2:
Touch:
24-bit DSTN/TFT LCD Interface

Analog on

A/D:
D/A:
Analog Misc.:
2x A/D Channels with 12-bit A/D Converter

Dimensions

Dimensions:
2.66 × 2.375 in
Form Factor:
200-pin SODIMM

Power Requirements

Voltage:
3.3 V
Idle Current:
465 mA
Constant Busy Loop Current:
485 mA
Typical Current:
470 mA
Typical Voltage:
3.3 V
Max Boot Current:
482 mA

Environmental

Low Operating Temperature:

0 C
High Operating Temperature:
70 C
Upper Operating Humidity:
90%
Environmental Misc.:
Optional -40 to +85 (Minimum Order Quantity Applies)

Pricing
SoM-3517M-131
TI ARM Cortex-A8 CPU, 4GB eMMC FLASH, 256MB RAM (0 ~ +70C)
$198.00
Stock
Base Product:
SoM-3517M
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-250GS
SoM-250GS-007
Bare-Bones Carrier Board with CAN, Audio, WiFi, without LCD
$250.00
Base Product:
SoM-250GS
