3SM1002 series

AM335x ARM® Cortex®-A8 CPU SOM Module

FEATURES

- AM335x ARM® Cortex®-A8 CPU
- High pin multiplexing flexibility on MXM 230 pin connector
- HW support for EtherCAT®, PROFIBUS, PROFINET, EtherNet/IP™
- Low power consumption
- Small dimensions only 40 mm x 70 mm

custom embedded devices

Actual size

CPU

- Texas AM335x series ARM® Cortex®-A8 CPU Microprocessor with NEON™ SIMD coprocessor
- Crypto Hardware Accelerators

MEMORY

- Up to 512 MB DDR3-800 (16 bit BUS)

STORAGE / BOOT[1]

- Up to 512 MB NAND FLASH memory (optional)
- SPI FLASH 2 MB (optional)
- Up tp 64GB eMMC (optional)
- microSD Connector (optional)

MULTIMEDIA AND HUMAN INTERFACE[1]

- 1x SGX530 3D Graphics Engine (optional)
- 1x Integrated LCD controller (Max Supported Resolution: up to 2048x2048) for an external 24 bpp TTL Display
- 1x Touch Screen interface (resistive)

OPERATING SYSTEMS

- Linux

I/O PERIPHERALS[1]

- 1x General-Purpose Memory Controller Bus (GPMC)
- 2x USB OTG 2.0 LS/FS/HS
- 1x Full Ethernet 10/100 BASE-T with on board PHY (optional)
- 2x 10/100/1000 RGMII Ethernet interfaces
- 2x CAN BUS Interfaces
- 6x UART (TX,RX,RTS,CTS) TTL Level
- 2x Multichannel Audio Serial Interfaces (McASP)
- 2x SPI Interfaces (McSPI)
- 3x I2C BUS Interfaces
- 8x ADC Input (12 bit SAR)
- 3x Enhanced Capture Rate Modules (eCAP)
- 3x Enhanced High-Resolution PWM Modules (eHRPWM)
- 3x MMC, SD, and SDIO Ports

SYSTEM

- 230 pin MXM connector
- Single +5 VDC ±10% power supply
- Integrated regulators for all integrated functions
- Power consumption depends on MPU clock frequency / state
- RTC 32 kHz (optional)
- Temperature Sensor (optional)

TEMPERATURE[3]

- 0 to +70°C for Commercial Grade
- -40 to +85°C for Industrial Grade

[1]Please note that all function may not be available simultaneously, due to pin muxing limitation of SOM connector restrictions. Function availability depends also on the installed processor. For more details refer to processor datasheet.

[3] Commercial and Industrial Grade are the ambient operating temperature ranges for the components used into 3SM1002 series, with exception of AM335x processors, which are specified on junction operating temperature range, 0 to +90°C for Commercial Grade and -40 to +105°C for Industrial Grade. 3SM1002 series ambient operating temperature depends on the application and on the cooling measures applied.

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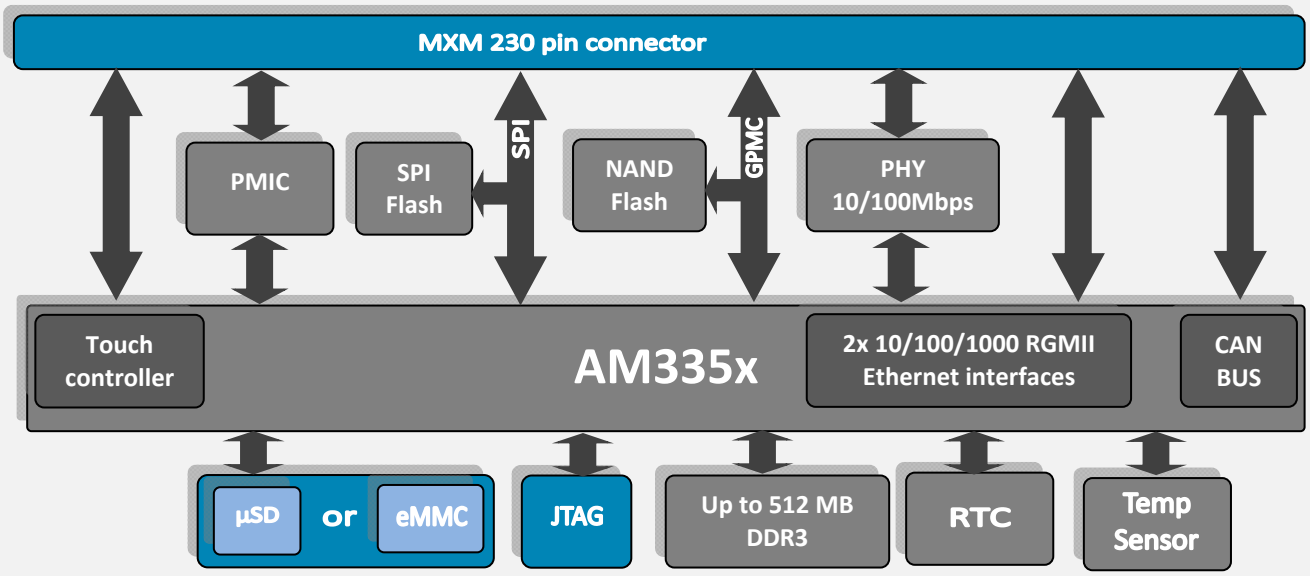
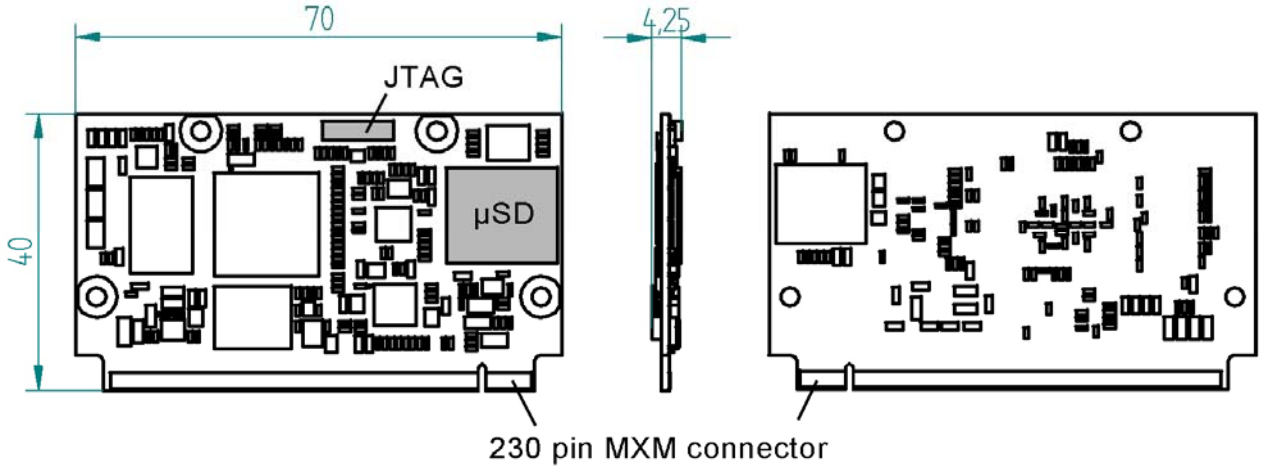
BOARD DIAGRAM



DIMENSIONS



ORDERING INFORMATION

Processor Part Number	Selector	DDR3	Selector	Memory	Selector	Temp. Range	Selector	Option	Selector
AM3352 -600MHz	**3SM1002_A**	256 MB	**1**	**None**	**A**	Commercial	**1**	Without options	**.0**
AM3352 -800MHz	**3SM1002_H**	512 MB	**2**	Flash 256MB	**B**	Industrial	**2**	SPI Flash	**.1**
AM3352 -1000MHz	**3SM1002_I**			Flash 512MB	**C**			Temperature sensor	**.2**
AM3357 -800MHz	**3SM1002_L**			Flash 1GB	**D**			Jtag connector	**.3**
AM3359 -800MHz	**3SM1002_M**							Slot microSD *	**.4**
AM3352 -300MHz	**3SM1002_F**							eMMC 2GB *	**.5**
AM3356 -800MHz	**3SM1002_N**							PHY Ethernet	**.6**
AM3354 -1000MHz	**3SM1002_O**							RTC on board	**.7**

* Mutually exclusive options
Red color is the default configuration (code: 3SM1002_A1B1.0)

In the table below there are two examples of code generation examples:

Ordering Code Examples	3SM1002_A1C1								
AM3352 – 600 MHz	**3SM1002_A**	256 MB	**1**	Flash 512MB	**C**	Commercial	**1**	Default	**None**

Ordering Code Examples	3SM1002_N2C1.124								
AM3356 -800MHz	**3SM1002_N**	512 MB	**2**	Flash 512MB	**C**	Commercial	**1**	SPI Flash	**.1**
								Temperature sensor	**.2**
								Slot micro SD	**.4**

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