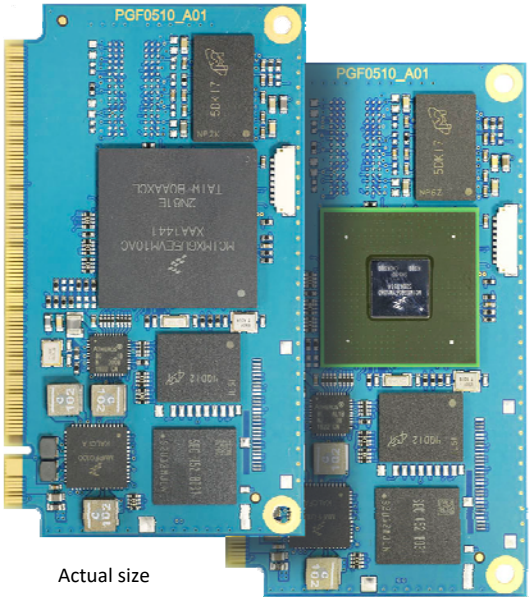
3SM1004 series

System on Module based on i.MX6 processor

elettronica GF
custom embedded devices

FEATURES

- Scalable SoM with NXP **i.MX6** Quad/Dual/DualLite/Solo ARM® Cortex®-A9 CPU
- Available on connectors full processor's fan-out
- Low cost solutions
- Small dimensions only 40 mm x 71 mm



Actual size

CPU
- NXP i.MX6 Quad/Dual/DualLite/Solo ARM® Cortex®-A9 CPU
- CPU core 1/2/4
- CPU Frequency 800/1000/1200 MHz

MEMORY
- Up to 4 GB DDR3 up to 1066MHZ (32\64 bit)

STORAGE / BOOT
- Up to 512 MB NAND FLASH memory (optional)
- SPI FLASH 4 MB
- Up to 64 GB eMMC (optional)
- µSD Connector (optional)

MULTIMEDIA AND HUMAN INTERFACE[1]
- GPU 3D Vivante™GC880/GC2000
- GPU 2D (Vector Graphics) emulated on GPU 3D or Vivante™GC355 depending on CPU model
- GPU 2D (Composition) Vivante™GC320
- Video Encode 1080p30 H.264 BP/ Dual 720p
- Video Decode 1080p30 + D1/1080p 60 h.264
- Camera Interface Types: 1x 20-bit parallel, MIPI-CSI2
- Display up to 2 x 4XGA (2048x1536) or 2 x [1080p + WXGA (1280x720)]
- Display ports HDMI, LVDS, Parallel, MIPI-DSI

NXP PARTNER PROGRAM

I/O PERIPHERALS[1][2]
- 2x USB 2.0 (1x OTG + PHY, 1x Host + PHY)
- 1x Ethernet 1Gbps with on board PHY (optional)
- Up to 2x FLEXCAN BUS Interfaces
- Up to 5 UART (TX,RX,RTS,CTS) TTL Level
- 1x AUDMUX port for connecting an external audio codec
- SPDIF Input and Output channels
- Up to 4x SPI Interfaces (ecSPI)
- Up to 3x I2C BUS Interfaces
- Up to 4x SD 3.0/MMC 4.41
- 1x PCIe 2.0
- Up to 1x S-ATA II
- GPIOs available

SYSTEM
- 230 pin MXM + 30 pin Aux + JTAG + µSD Connectors
- Single +3.3 VDC ±10% power supply
- On board regulators for all integrated functions
- Power consumption depends on MPU clock frequency / state
- RTC integrated in i.MX6 Application processor

TEMPERATURE[3]
- -20 to +70°C for Commercial Extended Grade
- -40 to +85°C for industrial Grade
- 0 to +70°C for commercial Grade
- -20 to +85°C for Commercial Extended Plus Grade

OPERATING SYSTEMS
- Linux

[1] Please note that not all the functions may be available simultaneously, due to pin mux limitation of both i.MX6 part numbers used and module connector restrictions. For more information, refer to user's manual.
[2] Some functions require transceiver or additional circuitry on carrier board.
[3] These temperatures are the ambient operating temperature ranges for the components used into 3SM1004 series, with exception of iMX6 processors, which are specified on junction operating temperature range, 0 to +95°C for Commercial Grade, -40 to +105°C for Industrial Grade and -20 to +105°C for Commercial Extended and Commercial Extended Plus Grade. 3SM1004 series ambient operating temperature depends on the application and on the cooling measures applied.

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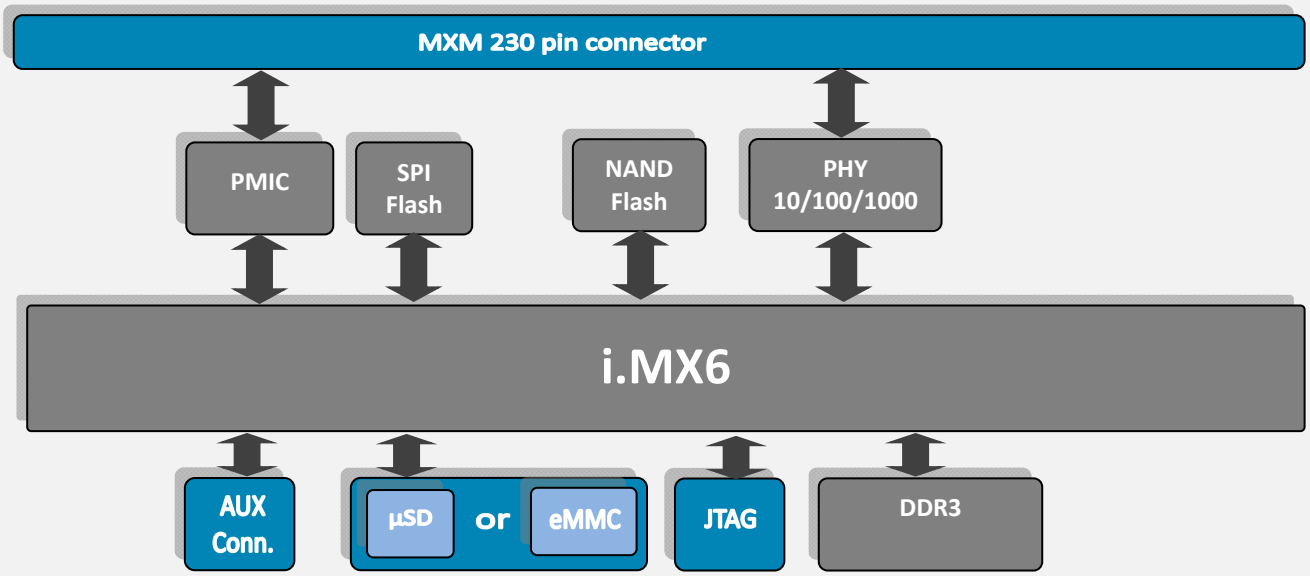
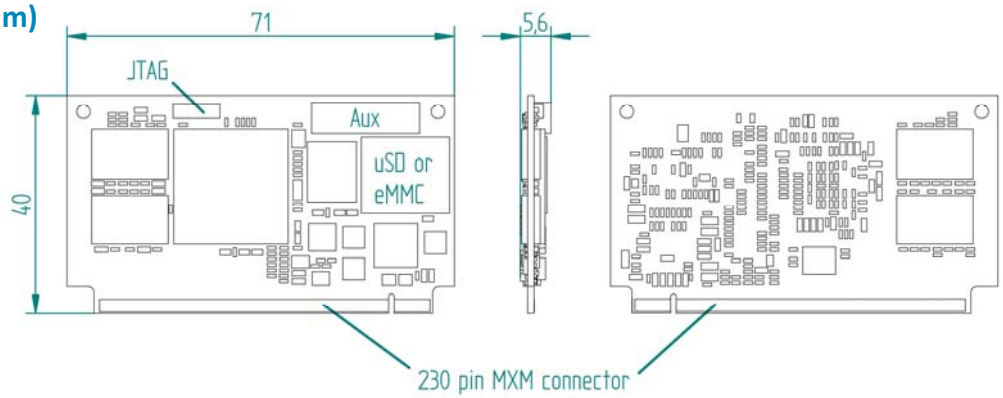
3SM1004-FL-EN_A12

BOARD DIAGRAM



DIMENSIONS (mm)



ORDERING INFORMATION

Standard ordering code

Ordering Code	Descriptions
3SM1004D3A2.6	iMX6DL 1000MHz, DDR3 1GB, Temp. -20 to +70°C, eMMC 8GB
3SM1004C2C4.34	iMX6S -1000MHz, DDR3 512MB, Flash 512MB, Temp. 0 to +70°C, eMMC 4GB, PHY Ethernet
3SM1004E3A2.456	iMX6D -1000MHz, DDR3 1GB, Temp. -20 to +70°C, PHY Ethernet, Aux connector, eMMC 8GB
3SM1004L3A3.34	iMX6Q -800MHz, DDR3 1GB, Temp. -40 to +85°C, eMMC 4GB, PHY Ethernet

3SM1004 [D] [3] [A] [2] . [6]

Processor

iMX6S - 800MHz	**A**
iMX6DL - 800MHz	**B**
iMX6S -1000MHz	**C**
iMX6DL -1000MHz	**D**
iMX6D -1000MHz	**E**
iMX6Q -1000MHz	**F**
iMX6D -1200MHz	**H**
iMX6D -800MHz	**I**
iMX6Q -800MHz	**L**
iMX6Q -1200MHz	**M**

DDR3 size

128MB	**0**
256MB	**1**
512MB	**2**
1GB	**3**
2GB	**4**
4GB	**5**

Memory

Without Flash	**A**
Flash 256MB	**B**
Flash 512MB	**C**

Operating temperature

-20 to +70°C	**2**
-40 to +85°C	**3**
0 to +70°C	**4**
-20 to + 85°C	**5**

Options

Without options	**.0**
Jtag connector	**.1**
Slot microSD *	**.2**
eMMC 4GB *	**.3**
PHY Ethernet	**.4**
Aux connector	**.5**
eMMC 8GB *	**.6**

* Mutually exclusive options.
Not all code configuration are available, please for more information contact: sales@elettronicagf.it

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