

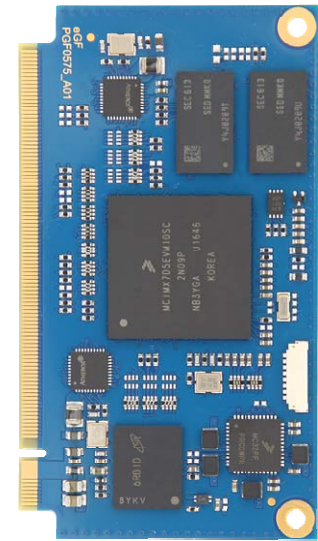
3SM1007 series

System on Module based on **i.MX7** processor

FEATURES

- NXP **i.MX7** Solo/Dual ARM® Cortex®-A7 CPU
- Available on 230pin edge connector full processor's fan-out
- Low cost solutions
- Low power consumption
- Small dimensions only 40 mm x 71 mm

elettronica GF
custom embedded devices



Actual size

CPU

- NXP i.MX7 Solo/Dual ARM® Cortex®-A7 CPU + ARM® Cortex®-M4 CPU
- Heterogeneous Multicore Processing architecture
- A7 processors Frequency up to 1200 MHz
- M4 processor Frequency 266 MHz

MEMORY

- Up to 2 GB DDR3L up to 1066MHZ (32 bit)

STORAGE / BOOT¹

- SPI Nor Flash for bootloaders
- Up to 512 MB NAND FLASH memory (optional)
- Up to 64 GB eMMC 5.0 (optional)
- QSPI signals available on edge connector

MULTIMEDIA AND HUMAN INTERFACE¹

- Image processing PXP, v3.0
CSC, Resize, Combine, Rotate
HW Dithering, Basic 2D Blit
- RGB 24 bit parallel display output
- MIPI-DSI display output
- EPDC display output
- Two lane MIPI-CSI camera input



I/O PERIPHERALS¹

- 2 x USB 2.0 OTG + Integrated PHY
- 1 x USB 2.0 HSIC port
- 2 x Ethernet 10/100/1000 with on board PHY (optional)
- Up to 2 x FLEXCAN BUS Interfaces
- Up to 7 x UART TTL Level
- Up to 3 x SPI Interfaces
- Up to 3 x I2C BUS Interfaces
- Up to 2 x SDIO Bus
- 8 x ADC input
- 1x Full WEIM interface (27 bit address, 16 bit data, 4 CS)
- Up to 2 x I2S interface
- Up to 3 x PWM outputs
- 1 x PCIe x1 output (optional)
- GPIOs available

SYSTEM

- Edge connector 230 pin MXM + JTAG Connector
- Single +3.3 VDC ±5% supply
- On board regulators for all integrated functions
- Power consumption depends on MPU clock frequency / state
- RTC integrated in i.MX7 Application processor

TEMPERATURE²

- 0 to +70°C for Commercial Grade
- -20 to +85°C for Commercial Extended Plus Grade

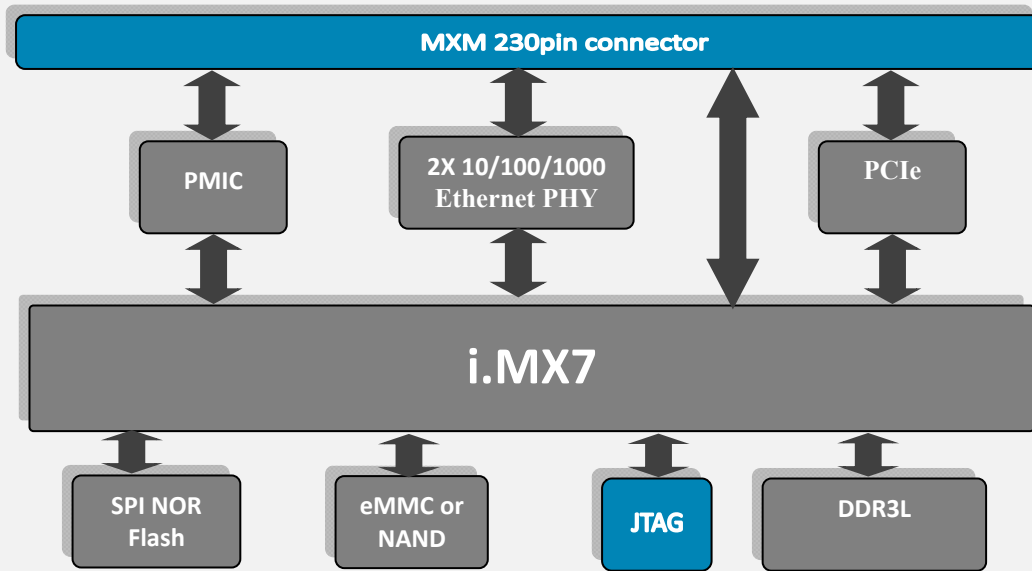
OPERATING SYSTEMS

- Linux

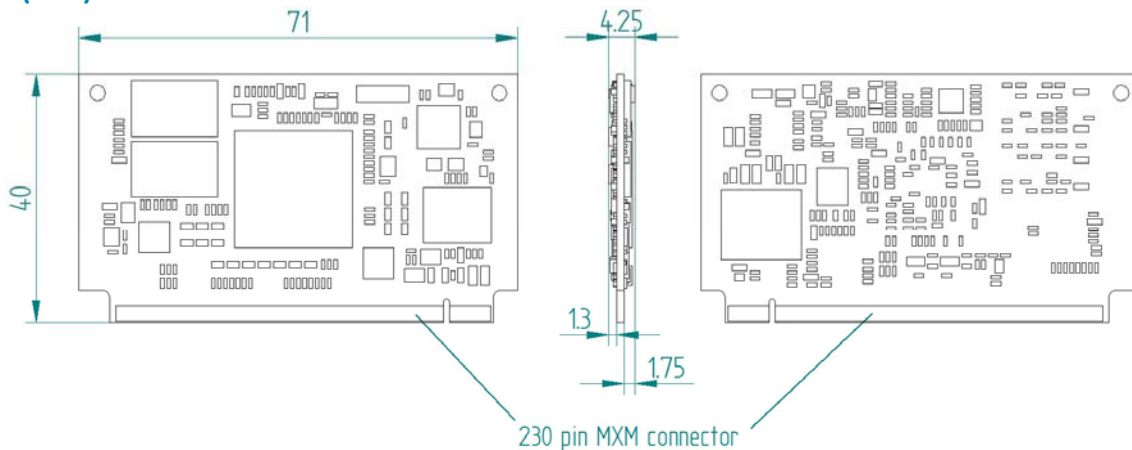
¹Please note that all function may not be available simultaneously, due to pin muxing limitation of SOM edge connector restrictions. Function availability depends also on the installed processor part number. For more details refer to processor datasheet.

²These temperatures are the ambient operating temperature ranges for the components used into 3SM1007 series, with exception of iMX6 processors, which are specified on junction operating temperature range, 0 to +85°C for Commercial Grade and -20 to +105°C for Commercial Extended Plus Grade. 3SM1007 series ambient operating temperature depends on the application and on the cooling measures applied.

BOARD DIAGRAM



DIMENSIONS (mm)



ORDERING INFORMATION

Standard ordering code

Ordering Code	Descriptions
3SM1007B2D1.2	iMX7 Solo 800MHz, DDR3 512MB, NAND 512MB, Temp. 0°C / 70°C, PHY Ethernet port 1
3SM1007A4D2.1234	iMX7 Dual 1000MHz, DDR3 2GB, NAND 512MB, Temp. -20°C / 85°C, Jtag conn., PHY Ethernet port 1 and 2, PCIe

3SM1007 **B** **1** **C** **1** **0**

Processor

- iMX7 Dual - 1000MHz **A**
- iMX7 Solo - 800MHz **B**
- iMX7 Dual - 1200MHz **C**

DDR3 size

- 256MB **1**
- 512MB **2**
- 1GB **3**
- 2GB **4**

eMMC or Flash NAND

- eMMC 4GB **A**
- eMMC 8GB **B**
- NAND 256MB **C**
- NAND 512MB **D**

Operating temperature

- Commercial 0°C / 70°C **1**
- Extended -20°C / 85°C **2**

Options

- Without options **.0**
- Jtag connector **.1**
- PHY Ethernet port 1 **.2**
- PHY Ethernet port 2* **.3**
- PCIe **.4**

Note: * Alternative to WEIM BUS

Note: Not all code combinations are allowed, for more information on ordering codes please contact Elettronica GF sales department.