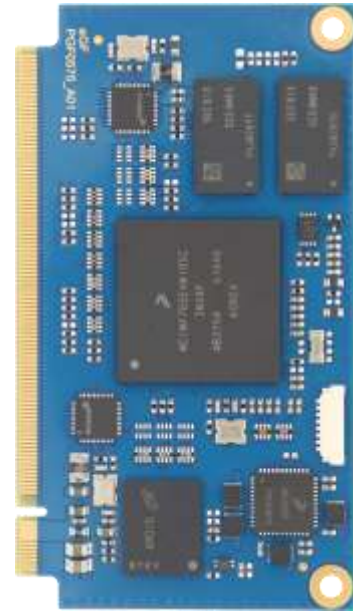# 3SM1007 series

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

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 / BOOT[1]

- 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 INTERFACE[1]

- 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 PERIPHERALS[1]

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

TEMPERATURE[2]

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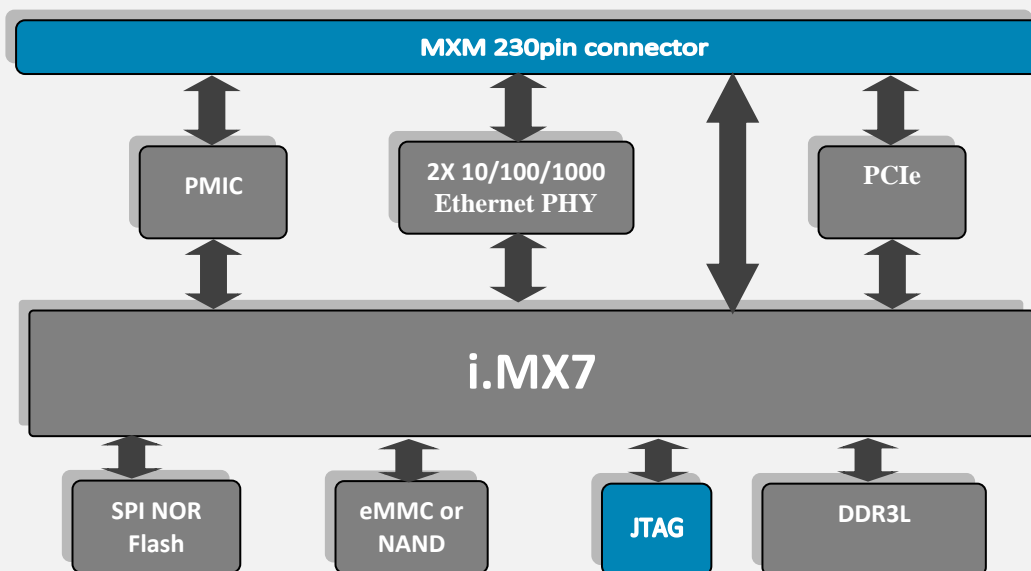- -20 to +85°C for Commercial Extended Plus Grade
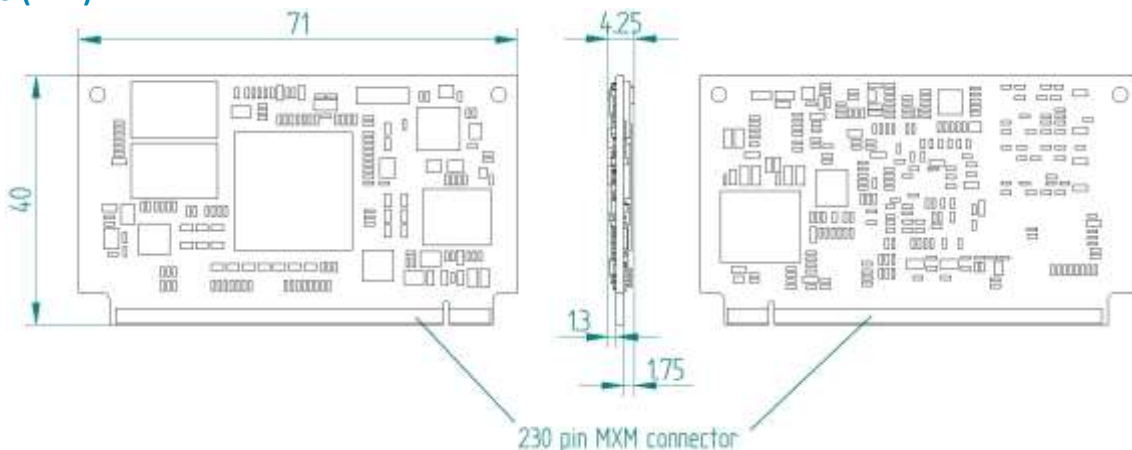
OPERATING SYSTEMS

- Linux

---

[1]Please 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.

[2] These 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)

230 pin MXM connector

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

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