

3SM1006 series

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

FEATURES

- NXP **i.MX7** Dual ARM® Cortex®-A7 CPU
- 200pin edge connector
- Low cost solutions
- Small dimensions only 40 mm x 67.6 mm

elettronica GF
custom embedded devices



Actual size

CPU

- NXP i.MX7 Dual ARM® Cortex®-A7 CPU + ARM® Cortex®-M4 CPU
- Heterogeneous Multicore Processing architecture
- A7 processors Frequency 1000 MHz
- M4 processor Frequency 266 MHz

MEMORY

- Up to 4 GB DDR3L up to 1066MHz (32 bit)

STORAGE / BOOT¹

- QSPI Nor Flash 4 MB
- Up to 64 GB eMMC 5.0

MULTIMEDIA AND HUMAN INTERFACE¹

- Image processing PXP, v3.0
CSC, Resize, Combine, Rotate
HW Dithering, Basic 2D Blit
- Display single parallel RGB 24 bit
- 1x Keypad Matrix 8x8
- 1x Resistive Touch Panel interface 4/5 Wire (Optional)

I/O PERIPHERALS¹

- 1x USB 2.0 OTG + PHY
- 1x USB 2.0 Host + PHY
- 3x USB 2.0 Host + PHY (optional with integrated Hub)
- 1x Ethernet 10/100 with on board PHY (optional)
- Up to 2x FLEXCAN BUS Interfaces
- Up to 4 UART TTL Level
- Up to 2x SPI Interfaces
- Up to 2x I2C BUS Interfaces
- Up to 2x SD 3.0/eMMC
- 5 x ADC input
- 1x Stereo Audio In (optional)
- 1x Stereo Audio Out (optional)
- 1X Mic Input (optional)
- GPIOs and PWM available

SYSTEM

- 200 pin SO-DIMM + JTAG
- Single +5 VDC ±10% power supply
- Integrated regulators for all internal functions
- Power consumption depends on MPU clock frequency / state
- RTC on board
- Temperature sensor on board

TEMPERATURE²

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

OPERATING SYSTEMS

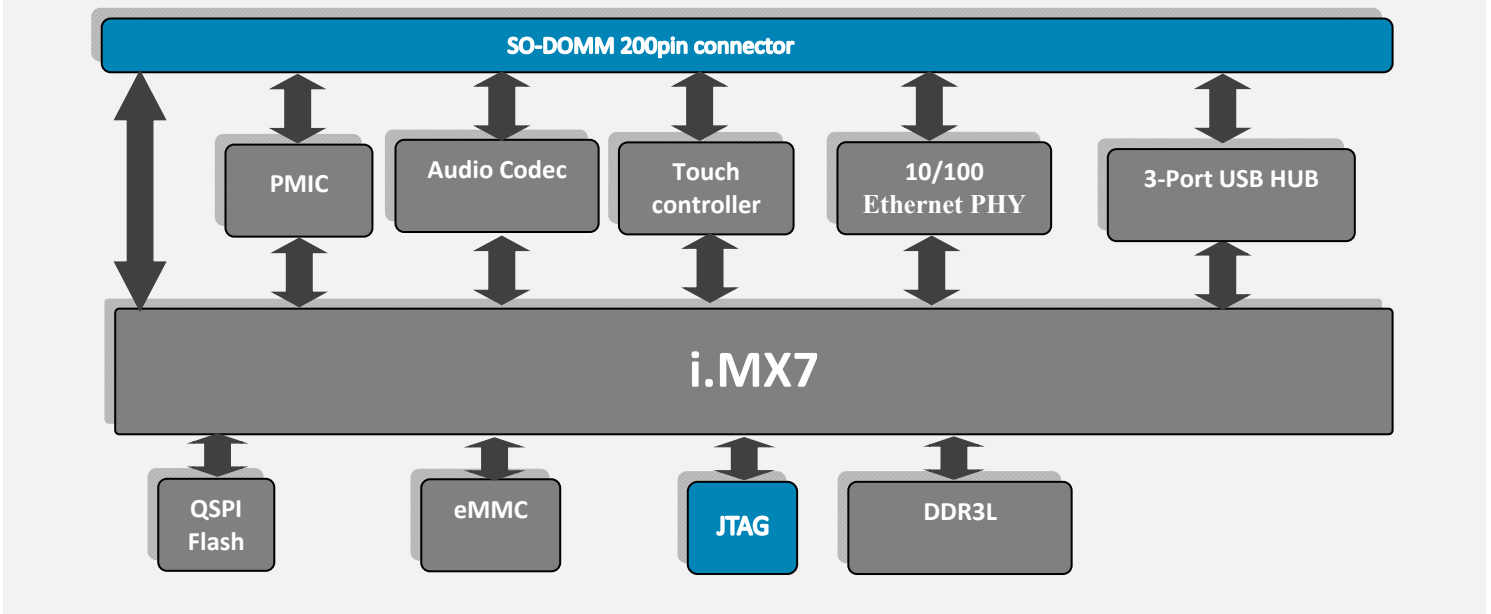
- Linux



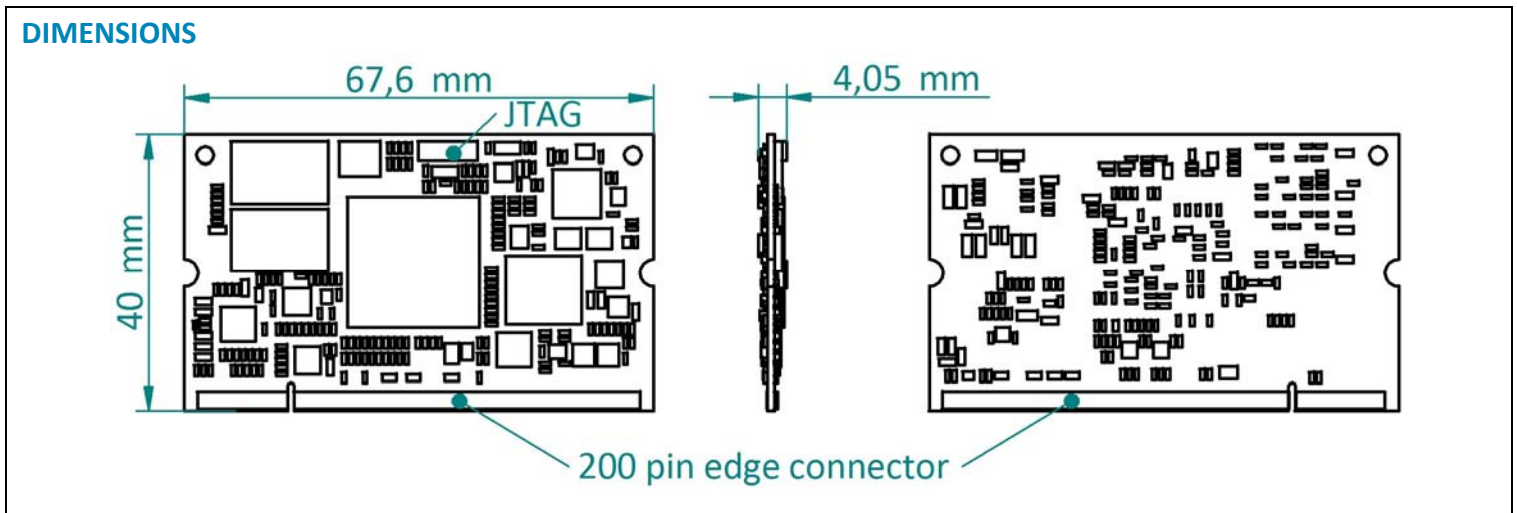
¹ Please note that all function may not be available simultaneously, due to pin muxing limitation of SOM connector restrictions. Function availability depends also on the installed processor. For more details refer to processor datasheet

² These temperatures are the ambient operating temperature ranges for the components used into 3SM1006 series, with exception of iMX6 processors, which are specified on junction operating temperature range, 0 to +95°C for Commercial Grade and -20 to +105°C for Commercial Extended Plus Grade. 3SM1006 series ambient operating temperature depends on the application and on the cooling measures applied.

BOARD DIAGRAM



DIMENSIONS



ORDERING INFORMATION

| Processor Part Number | Selector | DDR3 | Selector | eMMC | Selector | Temp. Range | Selector | Option | Selector |
|-----------------------|-----------------|-------|----------|----------|----------|-------------|----------|------------------|-----------|
| iMX7 -1000MHz | 3SM1006A | 512MB | 1 | eMMC 4GB | A | Commercial | 1 | Without options | .0 |
| | | 1GB | 2 | eMMC 8GB | B | Extended | 2 | Jtag connector | .1 |
| | | 2GB | 3 | | | | | PHY Ethernet | .2 |
| | | | | | | | | HUB USB | .3 |
| | | | | | | | | Touch controller | .4 |
| | | | | | | | | Audio Codec | .5 |

Red color is default configuration (code: 3SM1006A2A2.245)

In the table below there are two examples of code generation. Not all code configuration are available, please for more information contact: sales@elettronicagf.it

| Ordering Code Examples | 3SM1006A1A2.23 | | | | | | | | |
|------------------------|-----------------|-------|----------|----------|----------|----------|----------|--------------|-----------|
| iMX7 -1000MHz | 3SM1006A | 512MB | 1 | eMMC 4GB | A | Extended | 2 | PHY Ethernet | .2 |
| | | | | | | | | HUB USB | .3 |

| Ordering Code Examples | 3SM1006A1A1.0 | | | | | | | | |
|------------------------|-----------------|-------|----------|----------|----------|------------|----------|-----------------|-----------|
| iMX7 -1000MHz | 3SM1006A | 512MB | 1 | eMMC 4GB | A | Commercial | 1 | Without options | .0 |