TRIA OSM-SF-IMXRT1170

NXP™ i.MX RT1170 Crossover MCU with Arm® Cortex® Cores

30 x 30 mm

1-2 W

-40 +85

OPEN STANDARD MODULE™

Highlights

- Arm Cortex-M7 at 1 Ghz and Arm Cortex-M4 at 400MHz
- up to 2 MB SRAM with
- 512 KB of TCM for Arm Cortex-M7
- 256 KB of TCM for Cortex-M4
- 2D GPU with Vector Graphics Acceleration
- Up to 256MB QUAD SPI NOR Flash
- Up to 2 MB SRAM (internal)
- optional HyperRAM™ with up to 64MB
- High accuracy, temp. compensated (DTCXO) RTC
- 2x USB 2.0 Host/Device interface
- 2x Ethernet (1x RGMII, 1x RMII)
- 1x SD/SDIO interface
- 5x UART (2x with RTS/CTS)
- 2x SPI . 24x GPIO
- up to 2x ADC inputs (12-bit)
- up to 6x PWM
- 1x MIPI-DSI (2 lane)
- 1x MIPI-CSI (2 lane)
- OSM 1.1 (SF) Compliant, 322 Pin, RM 1,25 mm

Technical Data

Technology	ARM
Formfactor	OSM-SF, 322 Pin, RM 1,25 mm
CPU	NXP i.MX RT1170 CROSSOVER MCUs with up to 1GHz i.MX RT1171/RT1172/RT1173/RT1175/RT1176
Chipset	SOC
RAM	Up to 2 MB SRAM (internal) + optional HyperRAM™ with up to 64MB
Flash	Up to 256MB QUAD SPI NOR Flash
Storage Interfaces	1x eMMC/SD Interface (4 Lane)
USB	2x USB 2.0 Host/Client
Serial Interfaces	1x UART Console with Rx, Tx only 2x UART with 2-wire hand shake 2x UART w/o hand shake
Bus Interfaces	up to 2x I2C 2x SPI (with two chip selects) up to 2x CAN-FD /CAN 2.0B
Display Controller	2D GPU with Vector Graphics Acceleration
Display Interfaces	MIPI-DSI Display Interface
Network Interface	2x Ethernet (1x RGMII, 1x RMII)
Audio Interface	1x I2S Audio
Security Device	Hardware Elliptic Curve Cryptography Hardware-protected keys for secure boot AES engine for data encryption, optional SE050 Secure Element
Miscellaneous	High accuracy, temperature compensated (DTCXO) RTC 24x GPIO, configurable as input or output, interrupt capable, 14x configurable as FlexIO up to 2x ADC inputs (12-bit) up to 6x PWM MIPI-CSI Camera interface
Feature Highlights	OSM, Size-S compatible
OS Support	NXP's MCUXpresso software and tools
Power Requirement	Power Supply +5V +/-5% Power Consumption 1-2 W typ.
Environment	Temperature Range: 0°C ... +70°C operating commercial -40°C ... +85°C operating extended -40°C ... +85°C storage Humidity: 5 ... 95% (operating, non condensing) 5 ... 95% (storage, non-condensing)
Dimensions	30 x 30 mm
Certificates	UL / CE
Carrier	TRIA SM2F-OSM-AD-001

Technical Data for TRIA OSM-SF-IMXRT1170

Order Reference

Order No.	Description	Reference	Status*
tbd	OSM 1.1 module based on NXP i.MX RT1172, Cortex-M7 at 800MHz, 1x RGMII, 1x RMII, 2x USB2.0 Host/Device, 1x MIPI-DSI, 1x MIPI-CSI, 1x SDIO, industrial temperature -40°C...+85°C (Engineering Sample - get in touch with your sales representative)	MSC OSM-SF-IMXRT1170 ES1 PCBES	OR

Ordering Information for TRIA OSM-SF-IMXRT1170

*PV = Preferred variant; OR = on Request (in OEM quantities only)

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