

i.MX RT1050 Crossover MCU with Arm® Cortex®-M7 Core

i.MX-RT1050

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i.MX RT1050 crossover MCUs are part of the EdgeVerse[™] edge computing platform and were introduced as the industry's first crossover MCU. They combine the high performance and high level of integration of an applications processors with the ease-of-use and real-time functionality of a microcontroller. The i.MX RT1050 MCU runs on the Arm® Cortex®-M7 core at 600 MHz.

This device is fully supported by NXP's MCUXpresso Software and Tools, a comprehensive and cohesive set of free software development tools for Kinetis, LPC and i.MX RT microcontrollers. MCUXpresso SDK also includes project files for Keil MDK and IAR Embedded Workbench for Arm. Support for FreeRTOS™ on the i.MX RT1050 MCU is available within the MCUXpresso SDK.

i.MX RT1050 Crossover MCU Block Diagram

System Control Secure JTAG Core eMMC 4.5/SD 3.0 x 2
Arm® Cortex®-M7
PLL, OSO
1-cache
A x Quadrature ENC S-/16-bit Parallel Camera Interface A x QuadTimer A x FlexPWM Pixel Processing Pipeline (PXP) S/PDIF Tx/Rx 2-D Graphics Acceleration S x PS/SAI S x PS
Multimedia GPIO
4 x Quadrature ENC 8-/16-bit Parallel Camera Interface GPIO 4 x QuadTimer 24-bit Parallel LCD (RGB) 3 x PS/SAI 4 x FlexPWM Pixel Processing Pipeline (PXP) S/PDIF Tx/Rx 2-D Graphics Acceleration
4 x QuadTimer 24-bit Parallel LCD (RGB) 3 x IPS/SAI 4 x FlexPWM Pixel Processing Pipeline (PXP) S/PDIF Tx/Rx 2-D Graphics Acceleration
4 x FlexPWM Pixel Processing Pipeline (PXP) S/PDIF Tx/Rx 2-D Graphics Acceleration
Internal Memory External Memory 2 x USB 2.0 OTG
Up to 512 KB SRAM/TCM Dual-Channel Quad-SPI with Bus with PHY
Encryption Engine 1 x 10/100 ENET 96 KB ROM vith IEEE® 1588
Power Management External Memory Controller 8-/16-bit SDRAM ADC/DAC
DC/DC & LDO Parallel NOR Flash NAND Flash 2 x ADC (20-ch.)
Temp Monitor Security 4 x ACMP
Ciphers & RNG Secure RTC eFuse HAB

View additional information for i.MX RT1050 Crossover MCU with Arm® Cortex®-M7 Core.

Note: The information on this document is subject to change without notice.

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