SOMRT1061

System on Module with up to two Ethernet ports

200 Version

Summary

- High performance module can be used as main processor, or to add Ethernet connectivity to a new or existing product

- Can be used as a Serial to Ethernet device with no programming or customized to suit any application, using the NetBurner Network Development Kit
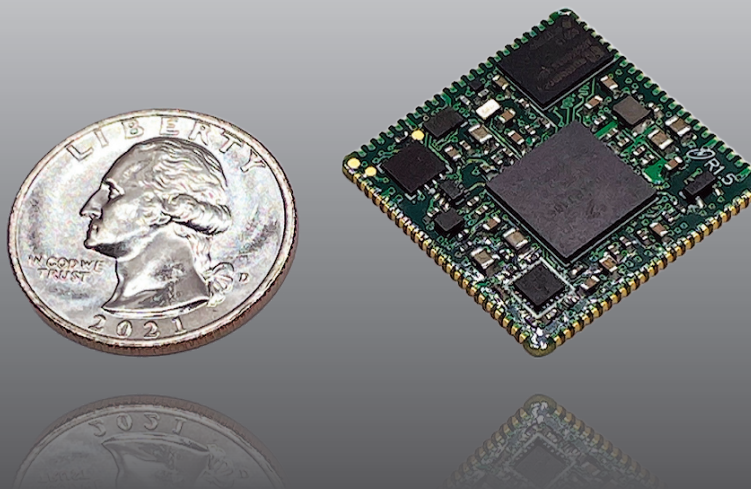
Performance and memory

- NXP i.MX RT1061, 528MHz, ARM M7, Industrial Temp.
- Flash: 1MB boot, 8MB application
- SRAM: 1MB on processor

- External RAM: 32MB
- Floating Point Unit (FPU)

Companion development kit features

Everything you need to create and deploy custom applications:

- Customize any aspect of operation
- Development software: NB Eclipse IDE, Graphical debugger, deployment tools, and examples
- Communication software: TCP/IP stack, UDP, HTTP, FTP, E-mail, I2C, SPI, 1-Wire, UART, Serial
- System software: NBRTOS, GCC C/C++ compiler and linker, Flash File System
- Security software: SSL/TLS 1.3, DTLS, SSH, HTTPS

SOMRT1061

Specifications

Features

Each pin supports up to 7 functions. We recommend MCUXpresso configuration tool for pin planning.

- Up to two 10/100 Ethernet ports with 1588. One Ethernet PHY located on SOM, second Ethernet port requires external PHY
- 7 UARTs, 6 with RTS/CTS
- 3 CAN (including 1 CAN FD)
- 3 I2C
- 3 SPI
- Up to 2 single/dual channel Quad SPI FLASH with XIP support
- Up to 67 General Purpose I/O with interrupt capability
- SDHC flash card interface
- 2 Analog-Digital-Converters (ADC), 8 channels, 12-bit. 4 channels can be used as analog comparators
- Address/Data bus: 12/16, 28/16 with external address latch hardware

Timers and PWMs

- Two General Programmable Timers (GPT). 4-channel generic 32-bit resolution timer for each, supports standard capture and compare operation. 6 total capture inputs (5 usable at a time). 6 total compare outputs. 1 external clock input.
- Four Periodical Interrupt Timers (PIT). Generic 32-bit resolution timer with periodical interrupt generation.
- Three Quad Timers (QTimer) with a total of 11 I/O signals. 4-channel generic 16-bit chainable timers for each. Quadrature decoder integrated.
- Four FlexPWMs. Up to 8 individual PWM channels per each channel. 16-bit resolution PWM suitable for Motor Control applications.
- Four Quadrature Encoder/Decoders

Flex IO

- Three FlexIO modules. Can be configured as: I2C, SPI, UART, I2S, Camera I/F, 68K 8080 parallel bus, PWM/ Waveform Generation. Generic serial to parallel, parallel to serial interface that can operate as a limited state machine.

USB

- Two USB OTG 2.0 controllers with integrated high speed / full speed PHYs (sharing one VBUS) [current NetBurner driver supports CDC mode].

Temperature Sensor

- On-die temperature sensor with programmable trim points

Audio

- S/PDIF input and output
- Three synchronous audio interface (SAI) modules supporting I2S, TDM, and codec/DSP interfaces/MQS interface for medium quality audio via GPIO pads

Physical Characteristics

Dimensions (inches): 1.00" x 1.00" (25.4mm x 25.4mm)
Weight: .04 oz.

Power

DC Input Voltage: 3.3V @ 150mA typical, 330mA max
Low power modes are able to reduce power draw, with consumption dependant on enabled peripherals.

Environmental Operating Temperature
-40° to 85° C

RoHS Compliance
The Restriction of Hazardous Substances guidelines ensure that electronics are manufactured with fewer environment harming materials.

Part Numbers

SOMRT 1061 Module Only (Solderable)
Part Number: SOMRT1061-200IR

SOMRT 1061 Module on Carrier Board (Header Pins)
Part Number: CAR-SOMRT1061-200IR

SOMRT 1061 Development Kit
Part Number: NNDK-SOMRT1061-KIT
Kit includes all the hardware and software you need to customize the included platform hardware. See NetBurner Store product page for package contents. Note: Includes the DEV-SOMRT1061-100CR development board.

Ordering Information

E-mail: sales@netburner.com
Online Store: www.NetBurner.com
Telephone: 1-800-695-6828

Link to processor data sheet: https://www.nxp.com/products/processors-and-microcontrollers/arm-microcontrollers/i-mx-rt-crossover-mcus/i-mx-rt1060-crossover-mcu-with-arm-cortex-m7-core:i.MX-RT1060

CP210x USB to Serial Driver
https://www.silabs.com/developers/usb-to-uart-bridge-vcp-drivers?tab=downloads