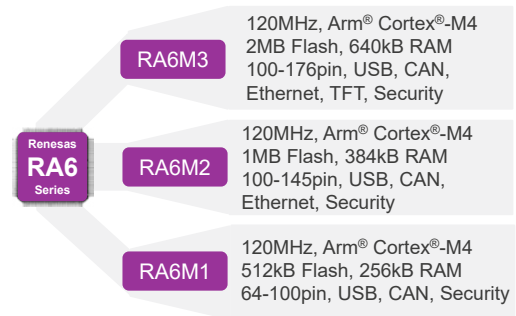


32-BIT MCU FAMILY RENESAS RA6M1 GROUP

120MHz Optimized entry point to RA6 Series

The Renesas RA6M1 is the entry point to the Renesas RA6 product series for applications that require a high-performance Arm® Cortex®-M4 core at a very attractive price point. The RA6M1 is built on a highly efficient 40nm process and is supported by an open and flexible ecosystem concept—the Flexible Software Package (FSP), built on FreeRTOS—and is expandable to use other RTOSes and middleware. The RA6M1 is suitable for IoT application requiring security, large embedded RAM and low power consumption.



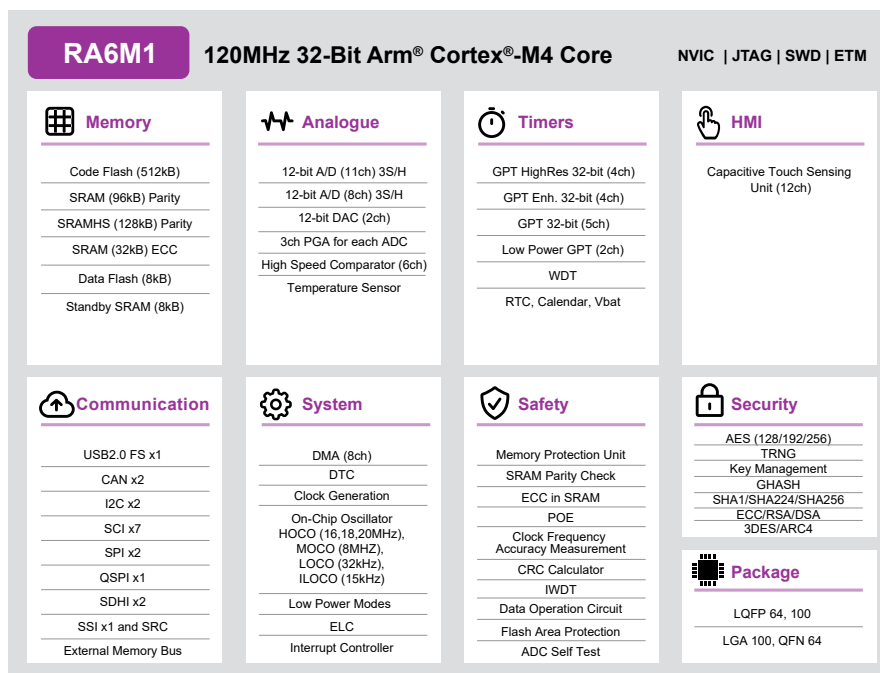
Target Applications

- Security (Fire Detection, Burglar Detection, Panel control)
- Metering (Electricity, Automated Meter Reading)
- Industry (Robotics, Door Openers, Sewing Machines, Vending Machines, UPS)
- HVAC (Heating, Air Conditioning, Boiler Control)
- General purpose

Key Features

- 120MHz Arm® Cortex®-M4
- 512kB Flash Memory and 256kB SRAM
- 8kB DataFlash to store data as in EEPROM
- Scalable from 64pin to 100pin Packages
- Capacitive Touch Sensing Unit
- USB2.0 Full Speed
- CAN 2.0B
- SCI (UART, Simple SPI, Simple I²C)
- SPI/ I²C Multimaster Interface
- SDHI
- SSI/Serial Sound Interface

Block Diagram



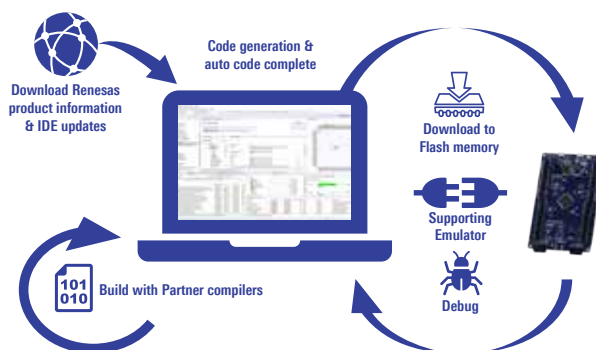
RENESAS RA6M1 GROUP

Benefits

- Integrated Crypto Module with several cryptography accelerators and key management support
- Highly power efficient with 100µA/MHz in active mode, 1.3µA in software standby mode and 900nA in VBAT mode with RTC running
- Large 256kB embedded SRAM suitable for handling communication stacks

Tools and Support

IDE	Renesas e²studio	Keil MDK	IAR EWARM
Compiler	<ul style="list-style-type: none"> ■ GCC ■ Arm Compiler 	<ul style="list-style-type: none"> ■ Arm Compiler 	<ul style="list-style-type: none"> ■ IAR Arm Compiler
Debugger	<ul style="list-style-type: none"> ■ Renesas E2/E2 Lite ■ SEGGER J-Link 	<ul style="list-style-type: none"> ■ SEGGER J-Link 	<ul style="list-style-type: none"> ■ IAR I-Jet ■ SEGGER J-Link
Programmer	<ul style="list-style-type: none"> ■ Renesas PG-FP6 ■ SEGGER J-Flash ■ Third party solutions 		



Evaluation Kit

- Full MCU evaluation including On-Chip debugger
 - Part name: **RTK7EKA6M1S00001BU**



Evaluation Kit: EK-RA6M1

Ordering References

Part name	Flash	RAM	DataFlash	Operating Temperature	Package	Package Dimensions	Pin Pitch
R7FA6M1AD2CLJ	512kB	256kB	8kB	-40/+85°C	LGA 100pin	7x7mm body	0.65mm
R7FA6M1AD3CFM	512kB	256kB	8kB	-40/+105°C	LQFP 64pin	10x10mm body; (12x12mm)	0.5mm
R7FA6M1AD3CFP	512kB	256kB	8kB	-40/+105°C	LQFP 100pin	14x14mm body; (16x16mm)	0.5mm
R7FA6M1AD3CNB	512kB	256kB	8kB	-40/+105°C	QFN 64pin	8x8mm	0.4mm

For more details, please visit www.renesas.com/RA

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