

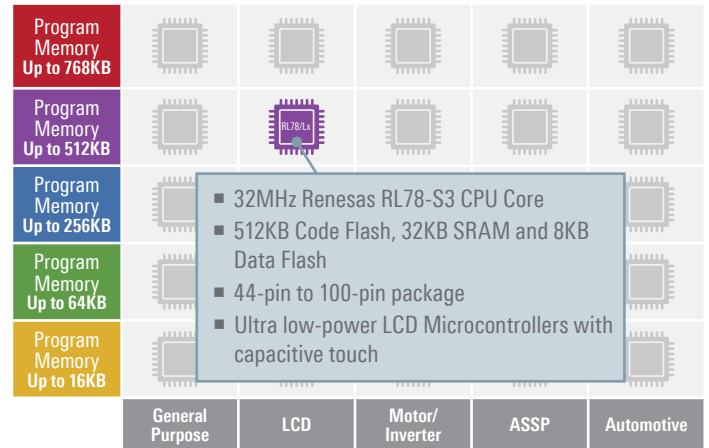
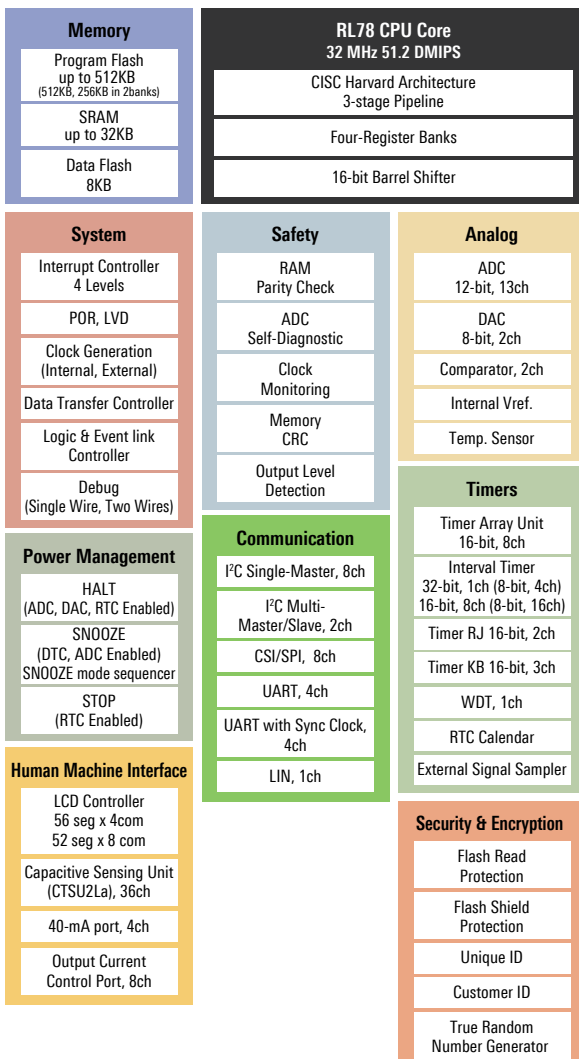
16-BIT MCU FAMILY

RENESAS RL78/L23 GROUP

32MHz Ultra-Low Power LCD Microcontroller with Capacitive Touch Functions

The Renesas RL78/L23 microcontroller is an RL78-S3 CPU core with rich peripheral features to deliver better design experience that allows high level system design while reducing power consumption, system cost and overall footprint by the capabilities of Dual Bank Flash, segment LCD, Capacitive touch and low power operation.

Block Diagram



Key Features

- 32 MHz Renesas RL78-S3 CPU core
- 512KB Flash (Dual Bank) and 32KB SRAM
- 8KB data flash memory (100,000 program/erase (P/E) cycles)
- 44-pin to 100-pin package lineup with a wide variety of package option including LQFP, LFQFP and HWQFN
- Build-in LCD controller supporting 19 to 56 segment signal outputs and 4 to 8 common signal outputs.
- Capacitive sensing unit supports up to 36ch.
- Rich timer functions including 16-bit general purpose timers, 32-bit and 16-bit low power Inverter timers, 16-bit Timer RJ, 16-bit Timer KB and RTC
- 12-bit A/D converter, 8-bit D/A converter, Comparator and temperature sensor
- SCI (UART, Simple SPI, Simple I2C), SPI and I2C bus

Target Applications

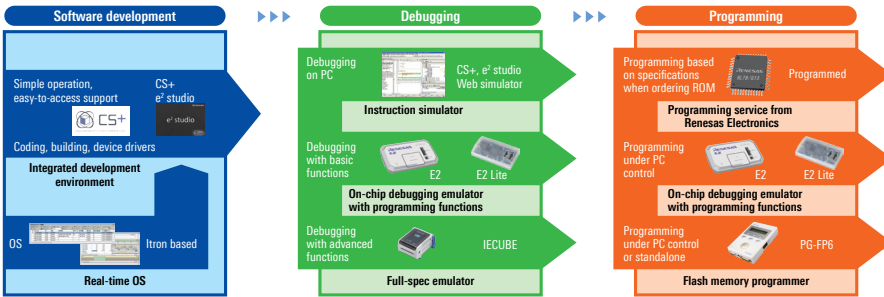
- Home Appliances
- Metering
- Industrial Consumer
- Healthcare
- Building Automation
- Industrial Automation

RENESAS RL78/L23 GROUP

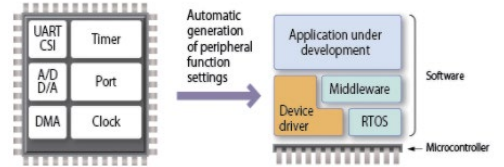
Tools and Support

Comprehensive lineup of development tools

Renesas provides support for all stages of RL78 application development.



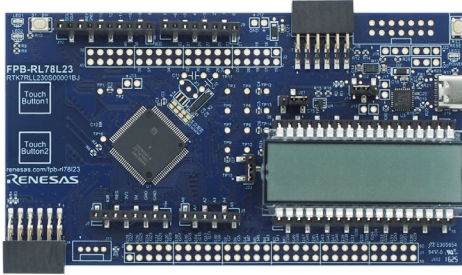
Smart Configurator/Code generation plugin
Generates code for device drivers and software automatically.



Evaluation Kit

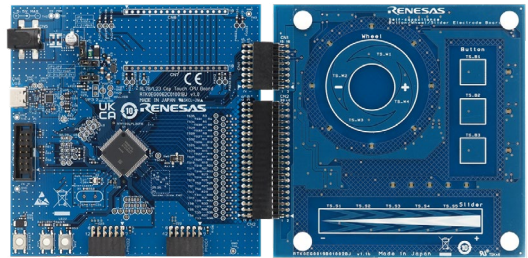
RL78/L23 Fast Prototyping Board

- The RL78/L23 Fast prototyping Board ([FPB-RL78L23](#)) provides an entry point for evaluation, prototyping and development with the RL78/L23 MCU.
- Ordering P/N: RTK7RLL230S00001BJ



Capacitive Touch Evaluation System for RL78/L23

- The Capacitive Touch Evaluation System for RL78/L23 ([RSSK-RL78/L23](#)) is an evaluation system specializing for the capacitive touch evaluation of RL78/L23 MCU.
- Ordering P/N: RTK0EG0063S01001BJ



Ordering References

Code Flash/ RAM/ Data Flash	Ta										
512KB* /32KB /8KB	-40 to 105 °C	R7F100LFL3CFP	R7F100LGL3CNP	R7F100LGL3CFB	R7F100LJL3CFA	R7F100LLL3CFA	R7F100LLL3CFB	R7F100LML3CFA	R7F100LML3CFB	R7F100LPL3CFA	R7F100LPL3CFB
256KB* /32KB /8KB		R7F100LFJ3CFP	R7F100LGJ3CNP	R7F100LGJ3CFB	R7F100LJJ3CFA	R7F100LLJ3CFA	R7F100LLJ3CFB	R7F100LMJ3CFA	R7F100LMJ3CFB	R7F100LPJ3CFA	R7F100LPJ3CFB
128KB /16KB /8KB		R7F100LFG3CFP	R7F100LGG3CNP	R7F100LGG3CFB	R7F100LJG3CFA	R7F100LLG3CFA	R7F100LLG3CFB	R7F100LMG3CFA	R7F100LMG3CFB	R7F100LPG3CFA	R7F100LPG3CFB
64KB /16KB /8KB		R7F100LFE3CFP	R7F100LGE3CNP	R7F100LGE3CFB	R7F100LJE3CFA	R7F100LLE3CFA	R7F100LLE3CFB				
Pin Count		44-pin	48-pin	48-pin	52-pin	64-pin	64-pin	80-pin	80-pin	100-pin	100-pin
Package		LQFP	HWQFN	LFQFP	LQFP	LQFP	LFQFP	LQFP	LFQFP	LQFP	LFQFP
Package size (body)		10x10mm	7x7mm	7x7mm	10x10mm	12x12mm	10x10mm	14x14mm	12x12mm	14x20mm	14x14mm
Pitch		0.8mm	0.5mm	0.5mm	0.65mm	0.65mm	0.5mm	0.65mm	0.5mm	0.65mm	0.5mm

* Dual Bank

For more details, please visit: [renesas.com/r178l23](https://www.renesas.com/r178l23)



Corporate Headquarters

TOYOSU FORESIA, 3-2-24 Toyosu, Koto-ku, Tokyo 135-0061, Japan
www.renesas.com

Trademarks

Renesas and the Renesas logo are trademarks of Renesas Electronics Corporation. All trademarks and registered trademarks are the property of their respective owners.

Contact Information

For further information on a product, technology, the most up-to-date version of a document, or your nearest sales office, please visit: www.renesas.com/contact/