RL78/L12

The True Low Power LCD Microcontroller Platform

NEW !

Renesas Electronics
www.renesas.eu

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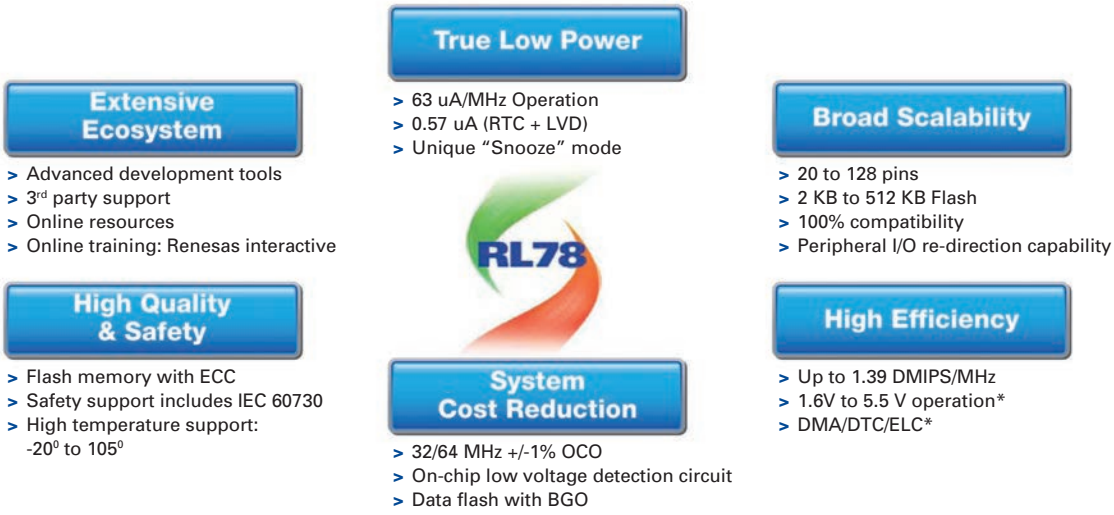
RL78 The True Low Power Microcontroller Platform

RL78 from Renesas Electronics is an advanced family of 16-bit general purpose and application specific microcontrollers (MCU's) combining true low power and high performance operation.
The RL78 is designed specifically for ultra low power applications. RL78's innovative Snooze mode allows serial communication and ADC operation in standby, which makes it best in class for battery powered designs.

Why RL78?

- World's best in class performance for an equivalent MCU family
- Scalability of physical size including smart pin layout
- System cost saving features
- Wide voltage operation
- Wide temperature operation
- On board security features

An extensive ecosystem and more details of RL78 can be found at **www.Renesas.com/RL78**



RL78 Now With LCD Drive

The latest devices from the RL78 platform offer integrated LCD drive. The first member in the family with integrated LCD drive to be released is the RL78/L12.

- More segment drive for a smaller package: RL78/L12 can drive 35segment x 8 or 39 segment x 4
- Low power LCD drive, only 0.6 uA @ 3 V with capacitor split method
- Flexible control method: Split capacitors, capacitive charge pump or external split resistor
- Selectable functions (Seg or I/O) for every segment pin
- Drive for both A waveform glass and B waveform panel

RL78/L12 Applications

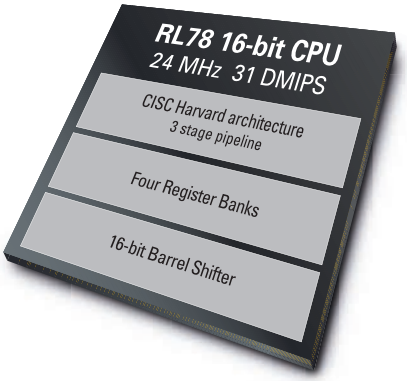
- Home Automation: For long battery life and operation down to 1.6 V RL78 is the first choice

- Metering: RL78 is analogue rich, ideal for smart metering applications. Renesas has three decades of metering experience

- Medical: RL78 offers true low power consumption and rich features, ideal for portable healthcare devices and Renesas Electronics is an active member of Continua alliance.

RL78/L12

- RL78 CPU Core
  - 16-bit CISC, 31 DMIPS at 24 MHz
- LCD
  - 35 seg x 8 com / 39 seg x 4 com
  - Supports capacitor split method, internal voltage
  - boost method and resistance division method
  - Supports waveform types A and B
  - Supports LCD contrast adjustment (18 steps
  - Supports LCD blinking
- Flash Memory
  - 1.8 V Reprogramming, Boot swap support
  - Error Code Correction (ECC)
- System
  - +/- 1% Internal Oscillator
  - 1.6 to 5.5 V operation, External clock (20 MHz max.)
- Power Management
  - Operating: 63uA/MHz (minimum)
  - Stop (RAM retained): 0.23 µA, (LVD enabled): 0.31 µA
  - Halt (RTC + LVD): 0.64 µA
  - LCD operating current (Capacitor split method): 0.12 µA
  - LCD operating
- Safety
  - IEC/UL 60730 Support, Illegal memory access, guard
- Timers
  - Multi-function Timer Array Unit (TAU0), Watchdog (window)
- Analog
  - 1.6 V (Vcc) operation, Internal Voltage Reference (1.44 V)
- Package
  - 32- to 64-pin



Memory
- Program Flash up to 32 KB
- SRAM up to 1.5 KB
- Data Flash up to 2 KB

System
- DMA 2 ch
- Interrupt Controller 4 Levels
- Clock Generation Internal, External
- POR, LVD
- MUL/DIV/MAC
- Debug Single-Wire

Safety
- RAM Parity Check
- ADC Self-diagnostic
- Clock Monitoring
- Memory CRC

Analog
- ADC 10-bit, 26 ch
- Internal Vref.
- Temp. Sensor

Power Management
- HALT RTC, DMA Enabled
- SNOOZE Serial, ADC Enabled
- STOP SRAM On

Timers
- Timer Array Unit 16-bit, 6 ch
- Interval Timer 12-bit, 1 ch
- WDT 18-bit , 1 ch
- RTC Calendar

Communications
- 1 x I²C Multi-Master
- 1 x CSI/SPI 7-, 8-bit
- 1x UART/CSI Simple 12C

LCD | 35 seg x 8 com | Charge pump | Split Cap.

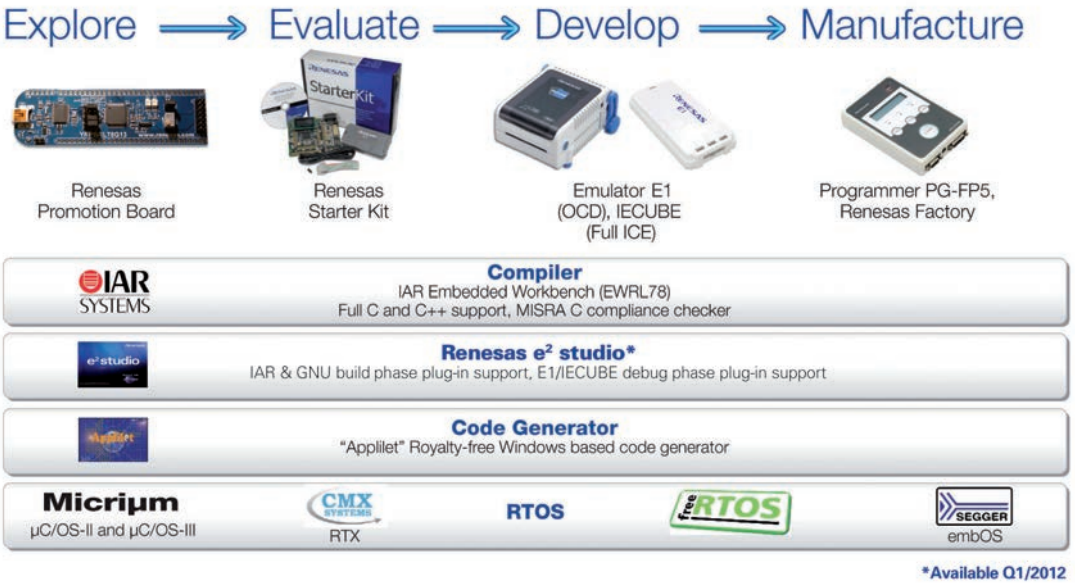
RL78/L12 Line up

		32 pins	44 pins	48 pins	52 pins	64 pins
Flash Memory/ RAM (KB)	32 KB	1.5 K	1.5 K	1.5 K	1.5 K	1.5 K
	16 KB	1 K	1 K	1 K	1 K	1 K
	8 KB	1 K	1 K		1 K	
Package		10 x 10 QFP	10 x 10 QFP	7 x 7 QFP	10 x 10 QFP	10 x 10 QFP
						12 x 10 QFP
						8 x 8 QFN

RL78 Development Tools

Extensive Renesas Development Ecosystem

Renesas Electronics and selected partners offer a comprehensive suite of hardware and software tools for the rapid evaluation and development of embedded systems built with RL78.



Online technical community

RenesasRulz.com
Think it. Build it. Post it.

www.renesasrulz.com

3rd Party network

ALLIANCE PARTNER RENESAS

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Personalised news & services

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Online technical training

Renesas INTERACTIVE

www.renesasinteractive.com

Facebook group

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