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What is "Embedded - Microcontrollers"?

"Embedded - Microcontrollers" refer to small, integrated circuits designed to perform specific tasks within larger systems. These microcontrollers are essentially compact computers on a single chip, containing a processor core, memory, and programmable input/output peripherals. They are called "embedded" because they are embedded within electronic devices to control various functions, rather than serving as standalone computers. Microcontrollers are crucial in modern electronics, providing the intelligence and control needed for a wide range of applications.

Applications of "Embedded - Microcontrollers"

Details	
Product Status	Last Time Buy
Core Processor	R8C
Core Size	16-Bit
Speed	20MHz
Connectivity	I²C, LINbus, SIO, SSU, UART/USART, USB
Peripherals	POR, PWM, Voltage Detect, WDT
Number of I/O	36
Program Memory Size	32KB (32K x 8)
Program Memory Type	FLASH
EEPROM Size	4K x 8
RAM Size	4K x 8
Voltage - Supply (Vcc/Vdd)	1.8V ~ 5.5V
Data Converters	A/D 12x10b
Oscillator Type	Internal
Operating Temperature	-20°C ~ 85°C (TA)
Mounting Type	Surface Mount
Package / Case	48-LQFP
Supplier Device Package	48-LQFP (7x7)
Purchase URL	https://www.e-xfl.com/product-detail/renesas-electronics-america/r5f21346unfp-v0

Table 1.3 Specifications for R8C/34U Group, R8C/34K Group (2)

Item	Function	Specification
I2C bus		1 (shared with SSU)
LIN Module		Hardware LIN: 1 (timer RA, UART0)
USB Functions	R8C/34U Group	• USB 2.0 specification compliant, Full speed (12 Mbps) supported • USB function controller and USB transceiver incorporated • 5 pipes provided with individual FIFO Arbitrary EP numbers can be specified for PIPE4 to 7 • FIFO size (total 448 bytes: DCP (EP0) = 64 bytes, PIPE4 and PIPE5 = 128 bytes (64-byte double buffer), PIPE6 and PIPE7 = 64 bytes • Supported transfer: DCP = Control transfer IN/OUT, PIPE4 and PIPE5 = Bulk transfer IN/OUT, PIPE6 and PIPE7 = Interrupt transfer IN/OUT
	R8C/34K Group	• USB 2.0 specification compliant, Full speed (12 Mbps) supported • USB Device Controller (UDC), transceiver for USB2.0 are incorporated, and on-chip USB transceiver • 5 pipes provided with individual FIFO Arbitrary EP numbers can be specified for PIPE4 to 7 • USB OTG (On-The-Go) operation is possible • FIFO size (total 448 bytes): DCP (EP0) = 64 bytes, PIPE4 and PIPE5 = 128 bytes (64-byte double buffer), PIPE6 and PIPE7 = 64 bytes • Supported transfer: DCP = Control transfer IN/OUT, PIPE4 and PIPE5 = Bulk transfer IN/OUT, PIPE6 and PIPE7 = Interrupt transfer IN/OUT • When the host controller is selected Automatic scheduling for SOF and packet transmissions Programmable intervals for interrupt transfers
A/D Converter		10-bit resolution × 12 channels, includes sample and hold function, with sweep mode
Comparator B		2 circuits
Flash Memory		• Programming and erasure voltage: VCC = 2.7 to 5.5 V • Programming and erasure endurance: 10,000 times (data flash) 1,000 times (program ROM) • Program security: ROM code protect, ID code check • Debug functions: On-chip debug, on-board flash rewrite function • Background operation (BGO) function (data flash)
Operating Frequency/Supply Voltage		f(XIN) = 20 MHz (VCC = 2.7 to 5.5 V)(USB not used) f(XIN) = 5 MHz (VCC = 1.8 to 5.5 V)(USB not used)
Current consumption		Typ. 7.0 mA (VCC = 5.0 V, f(XIN) = 20 MHz) Typ. 3.5 mA (VCC = 3.0 V, f(XIN) = 10 MHz) Typ. 4.0 μA (VCC = 3.0 V, wait mode) Typ. 2.0 μA (VCC = 3.0 V, stop mode)
Operating Ambient Temperature		−20 to 85°C (N version) −40 to 85°C (D version)
Package		48-pin LQFP Package code: PLQP0048KB-A (previous code: 48P6Q-A)

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Refer to "http://www.renesas.com/" for the latest and detailed information.

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