S1C17003

EPSON
EXCEED YOUR VISION

Low Power 16-bit Single Chip Microcontroller

- Low power MCU (Operating voltage 1.65V ~、Power consumption SLEEP 1 uA, HALT 3.3 uA)
- High code density and high processing power 16bitRISC C17CPU, optimize to C, serial ICE
- 64KB ROM, 4KB RAM
- 10-bit ADC 4ch
- Small package: 48 pins WCSP

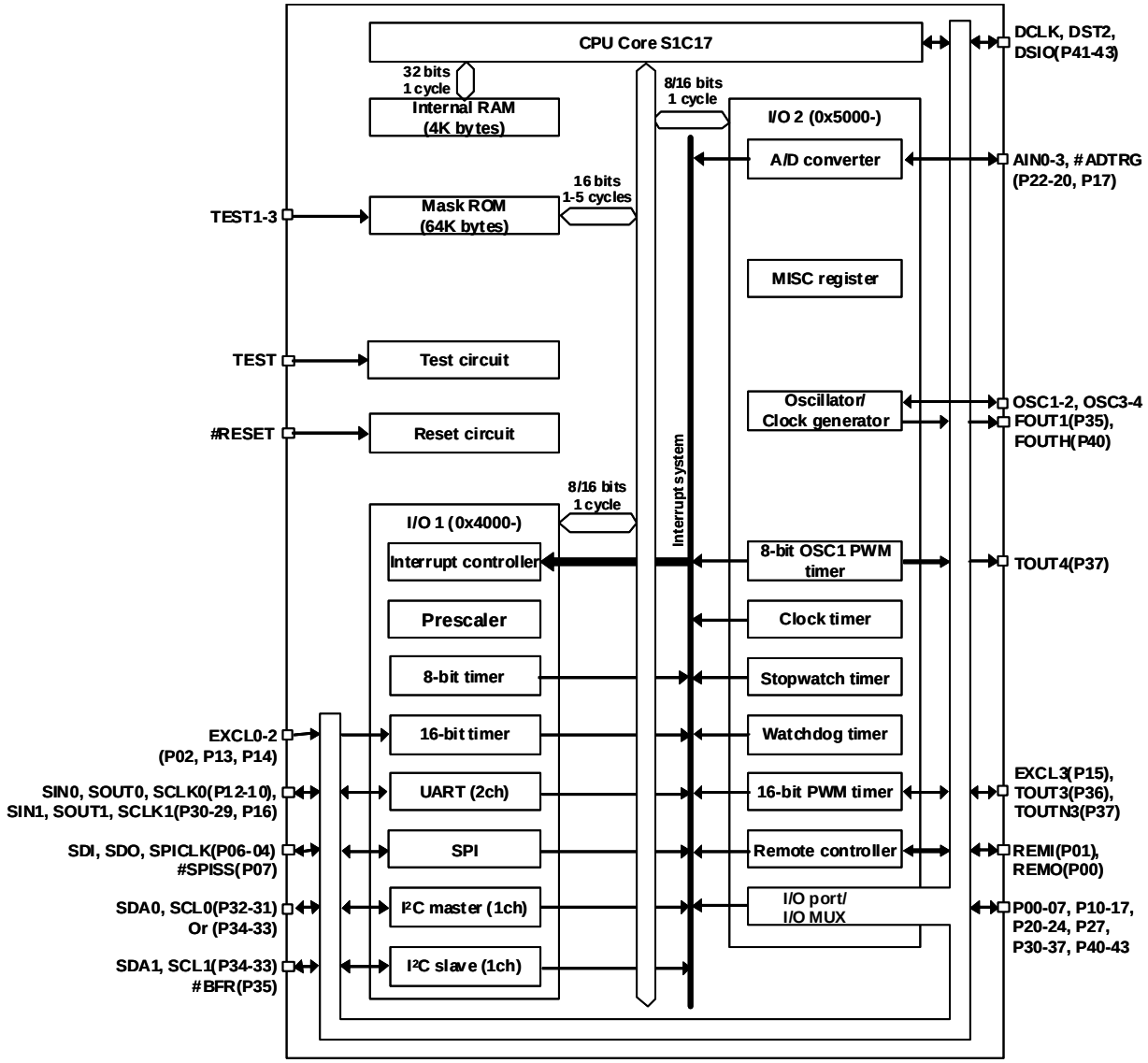
■ DESCRIPTIONS

The S1C17003 is a 16-bit MCU featuring high-speed low-power operations, compact dimensions, wide address space and on-chip ICE. A/D converter is built in and sensor of various analog I/F can be connected. It is suitable for the application of health care product, sports watch and meter module etc. with sensor that is required a small size and micro display in the battery driven.

■ FEATURES

●CPU	Epson original 16-bit RISC CPU core S1C17 16-bit x 16-bit + 32-bit product-sum processor 16 bit ÷ 16bit division arithmetic unit	
●OSC3 oscillator circuit	Crystal oscillator circuit or ceramic oscillator circuit, 20 MHz (max.)	
●OSC1 oscillator circuit	Crystal oscillator circuit 32.768 kHz (typ.)	
●Internal MASK ROM	64 Kbytes (for both instructions and data)	
●Internal RAM	4 Kbytes	
●A/D Converter	10 bit resolution	4ch
●Input/output port	Max. 30-bit general purpose input/output port, 4-bit input only port	
●Serial interface	SPI (master/slave)	1ch.
	I^2C (master)	1ch.
	I^2C (slave)	1ch.
	UART (460,800bps, IrDA1.0 compatible)	2ch.
	Remote controller (REMC)	1ch.
●Timer	8-bit timer (T8F)	2ch.
	16-bit timer (T16)	3ch.
	PWM timer (T16E)	1ch.
	Clock timer (CT)	1ch.
	Stopwatch timer (SWT)	1ch.
	Watchdog timer (WDT)	1ch.
	8-bit OSC1 PWM timer (T8OSC1)	1ch.
●Interrupt	NMI, P Port Input interrupt	3ch.
	Serial Interface interrupt	5ch.
	Timer interrupt	9ch.
●Power supply voltage	HVDD(I/O) : 1.65 to 3.6V LVDD(Core) : 1.65 to 1.95V AVDD(I/O) : 2.7V to 3.6V	
●Operating temperatures	-40°C to 85°C	
●Current consumption	SLEEP mode: 1 µA (typ.) off/1.8V HALT mode: 3.3 µA (typ.) 32kHz/1.8V When operating: 4.0 mA (typ.) 20MHz/1.8V	
●Shipping form	TQFP12-64pin (7 mm x 7 mm x 1.2 mm, 0.4 mm pin pitch) WCSP-48pin (3.124 mm x 3.124 mm x 0.78 mm, 0.4 mm ball pitch) Chip	

■ Block Diagram



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■ **Epson semiconductor website**

http://www.epson.jp/device/semicon_e/

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