Product Features and Specifications

Product features

(1) Low voltage and low current consumption that dramatically extend battery life

- Low voltage operation Guaranteed operating range: 1.2 V to 3.6 V
  A/D converter operating range: 1.8 V to 3.6 V
- Low current consumption operation Sleep mode: 0.15 µA (typical)
  Halt mode (32.768 kHz): 0.3 µA (typical)[*5]
  Run mode (32.768 kHz): 4 µA (typical)[*5]
  Run mode (1 MHz): 250 µA (typical)

(2) Supports many types of peripheral circuits, a feature in high demand for sensor node controllers

- UART, SPI, and I^2C serial interfaces enable communication with a wide variety of sensors.
- Resistance-to-frequency type A/D converter (R/F converter) for temperature and humidity measurements that enables connection to sensors in low-voltage environments
- 12-bit successive-approximation AD converter that enables connection of common voltage output analog sensors
- Supply voltage detection circuit that does not require an external power monitoring IC and is accurate to ±3% (-40°C to 85°C)
- Universal port multiplexers[*6] that offer a greater degree of design freedom for board layouts
- Sound generators that support three octaves and seven types of notes and rests
- IR remote controller capable of infrared remote control output[*7]

Product specifications

Product model number	S1C17W03	S1C17W04
Flash memory	16 KB	32KB
RAM	2KB	
CPU core	16-bit RISC processor + multiplier/divider	
AD converter (12-bit successive-approximation ADC)	6 ports/channel (48-pin package or chip) 5 ports/channel (32-pin package)	
R/F converter (CR oscillation type with 24-bit counters)	2 channels (48-pin package or chip) 1 channel (32-pin package)	
Supply voltage detection circuit	Voltage detection accurate to ±3.0% (-40°C to 85°C) when divided 30 times between 1.2 V and 3.6 V	
Serial interfaces	2 channel UART, 2 channel SPI, and 1 channel I^2C interfaces	
Packages	TQFP12-48pin (7 mm × 7 mm; Lead pitch: 0.5 mm) with 75% smaller surface area[*8] SQFN5-32pin (5 mm × 5 mm; Lead pitch: 0.5 mm) with 87% smaller surface area[*8] Die form (Pad pitch: 80 µm (min.))	

[*5] In Super Economy mode

[*6] A circuit that allows users to freely assign the I/O functions of peripheral circuits to I/O ports

[*7] A control circuit for infrared remote control

[*8] Compared to Epson's S1C17W16/22/23 (TQFP15-128-pin)