

Feature and Specifications

Key Product Features

- High-capacity Flash memory integrated on-chip to support larger control programs
 - S1C17W34 (128 Kbytes), S1C17W35 (256 Kbytes), and S1C17W36 (384 Kbytes)
 - Self-programmable at 3 V
- Low-voltage, low-current requirements that dramatically extend battery life
 - Guaranteed operating range: 1.2 V - 3.6 V
 - 0.6 μ A (typical) in HALT mode (real-time clock operation)
 - 0.15 μ A (typical) in Sleep mode
- Embedded circuits that help customers reduce total product part counts, save board space, and shrink software development times
 - LCD driver that can directly drive an LCD with up to 2,048 dots
 - Real-time clock that supports three time zones
 - Oscillator circuit that is switchable between 4, 2, and 1 MHz; 500, 384, and 250 kHz, and 700 kHz^{*1}
 - Supply voltage detector (SVD) circuit that does not require an external power supply supervisor
 - Circuitry that allows I/O port functions to be assigned with software

Product Specifications

Product model number	S1C17W34	S1C17W35	S1C17W36
Flash memory	128 Kbytes	256 Kbytes	384 Kbytes
RAM	12 Kbytes		16 Kbytes
CPU core	16-bit RISC processor + multiply and accumulation unit, multiplier		
Operating voltage	Guaranteed operating range: 1.2 V - 3.6V Operating voltage when writing to Flash memory: 2.7 V - 3.6 V (when using internal Vpp ^{*2})		
Current consumption	Sleep mode RTC OFF: 0.15 μ A (typical) HALT mode RTC ON: 0.6 μ A (typical) Run mode: 150 μ A/MHz (typical)		
LCD driver	2,048 dots max. (64 SEG x 17-32 COM) 1,280 dots max. (80 SEG x 1-16 COM)		
Real-time clock	Supports three time zones 128- 1 Hz counter. Second, minute, hour, day, day of the week, month, and year counters. Theoretical regulation function for 1-second correction ^{*3} Alarm and stopwatch functions		
Supply voltage detector	Detection of 30 levels (1.2 V to 3.6 V), VDD or external voltage levels		
Analog-digital converter (ADC)	12-bit resolution, 7 ports ^{*4}		
Serial interfaces	2-channel UART, 2-channel SPI, and 1-channel I ² C interfaces		
I/O ports	48 max.		
Package	176-pin QFP21-176 (lead pitch: 0.4 mm) Bare die with 80 μ m (min.) pad pitch 80 μ m (min.)		

*1: Initial frequency after power is turned on

*2: When it turns on the Vpp for writing to Flash memory

*3: A function to correct clock error due to frequency tolerance with no external parts required.

*4: Only the S1C17W36 has 8 ports, one of which is reserved for a temperature sensor circuit.