Key product features

1. Ideal specifications for LCD display applications

• LCD driver that can drive an LCD with up to 368 dots (46 SEG x 8 COM)

• Circuitry that allows I/O port functions to be assigned with software (universal port multiplexers)

2. Embedded circuits that help customers reduce total product part counts, save board space, and shrink software development times

• Built-in oscillator circuits±1% (12MHz)*

• Supply voltage detector (SVD) circuit that does not require an external power supply supervisor

• Real-time clock

3. Low-voltage, low-current requirements that dramatically extend battery life

• Guaranteed operating range: 1.8 V - 5.5 V

• Power consumption in SLEEP mode: 0.2µA

• Power consumption in RUN mode: 160µA

Product specifications

Product model number	S1C17M33
CPU core	16-bit RISC processor with multiply and accumulation unit and multiplier/divider
Flash memory	96 kilobytes
RAM	4 kilobytes
Operating voltage	Guaranteed operating range: 1.8 V - 5.5 V
Current consumption	SLEEP mode: 0.2µA (typical) RUN mode: 160µA (typical)
Supply voltage detector	VDD: 28 levels (1.8 to 5.0 V) / external voltage: 32 levels (1.2 to 5.0 V)
LCD driver	368 segments max. (46 SEG x 5 to 8 COM) 200 segments max. (50 SEG x 1 to 4 COM)
Infrared remote controller	1 channel (can be used to generate EL lamp driving waveforms)
Analog-digital converter	5 inputs (12-bit successive-approximation ADC)
Timer	16-bit PWM timer, 3 channel 16-bit timer, 4 channels Watchdog timer Real-time clock
Serial interfaces	UART (2 ch.), SPI (2 ch.), I^2C (1 ch.)
I/O ports	65 max. 32 universal port multiplexers
Package	TQFP14-80 pin (lead pitch: 0.5 mm) Bare die

* When operating in a temperature range between 10°C and 40°C