Key Product features

A large number of built-in peripherals that simultaneously help customers add more functions to their products while reducing the number of parts

- High-capacity Flash memory
- High-resolution dot-matrix LCD driver with built-in power supply
- USB 2.0 full-speed device controller
- Real-time clock
- Supply voltage detector (SVD) circuit that does not require an external power supply supervisor
- A/D converter, temperature sensor / reference voltage generator circuit
- Universal port multiplexer (UPMUX): I/O pin assignments changed with software

Usable under a wide range of environmental conditions

- Operating voltage range: 1.8 V - 5.5 V
- Operating temperature range: -40°C to 105°C
- High-speed operation up to 33 MHz, and 2 µs (max.) quick-start
- Low-power 32.768 kHz crystal oscillator / 32 kHz built-in oscillation circuit
- Shipment in a QFP or as a bare die

Product specifications

Product number	S1C31W73
CPU core	Arm® Cortex®-M0+ 32-bit RISC processor
Flash memory	384 Kbytes
RAM	32 Kbytes
Operating voltage	1.8 V to 5.5 V
Operating frequency	Max. 33 MHz (V_{D1} voltage mode: mode 0) Max. 2.1 MHz (V_{D1} voltage mode: mode 1)
LCD driver	Max. 2,560 dots (80 SEG x 25-32 COM) Max. 2,112 dots (88 SEG x 17-24 COM) Max. 1,536 dots (96 SEG x 1-16 COM)
Serial interfaces	UART & SPI: 2 channels each I^2C & QSPI: 1 channel each
USB	2.0 full-speed device controller, 1 ch
A/D converter	12-bit successive-approximation ADC External signal inputs: 7 max. Internal signal inputs: 1 Connect temperature sensor output
Temperature sensor / reference voltage generator circuit	Sensor output can be read by the A/D converter Reference voltage for A/D converter is selectable from 2.0 V, 2.5 V, VDD, and external input
Supply voltage detector	32 levels (1.7 V to 5.0 V)
Timers	16-bit timer: 8 channels 16-bit PWM timer: 2 channels Watchdog timer Real-time clock
I/O ports	Max. 73 bits Universal port multiplexer: 32 bits
Current consumption (typical)	Sleep mode: 0.7 µA RTC mode: 1.2 µA RUN mode: 220 uA/MHz (V_{D1} voltage mode: mode 0) 150 µA/MHz (V_{D1} voltage mode: mode 1)

	LCD driver: 10.6 μA (checker pattern) 3.0 μA (all on)
Shipping form	Bare die with an 80 μm (min.) pad pitch P-LQFP216-2424-0.40 (pin pitch: 0.4mm)