EPSON 4-bit MCU S1C63458 SPEC

Model	S1C63458
Supply Voltage	2.2~ 6.4V (Min. 1.8V when the OSC3 oscillation circuit is not used)
OSC1 oscillation circuit	32.768 kHz (Typ.) crystal or 60 kHz (Typ.) CR oscillation circuit (*1)
OSC3 oscillation circuit	1.8 MHz (Typ.) CR or 4MHz (Max.) ceramic oscillation circuit (*1)
Instruction set	Basic instruction: 46 types (411 instructions with all) Addressing mode: 8 types
Instruction execution time (during operation)	At 32.768kHz: 61µsec 122µsec 183µsec At 60kHz: 33µsec 67µsec 100µsec At 4MHz: 0.5µsec 1µsec 1.5µsec
ROM capacity	Code ROM: 8,192 words x 13 bits Data ROM: 2,048 words x 4 bits (=8K bits)
RAM capacity	Data memory: 5,120 words x 4 bits Display memory: 1,020 bits (240 words x 4bits + 60 x 1 bit)
I/O port	Input ports: 8 bits (pull-up resistors may be supplemented *1) Output ports: 12 bits (It is possible to switch the 2 bits to special outputs *2) I/O ports: 12 bits (It is possible to switch the 2 bits to special output and the 4 bits to serial I/F inputs/outputs *2)
Serial interface	1 port (8-bit clock synchronous system)
LCD driver	60 segments x 8, 16 or 17 commons (*2)
Time base counter	2 system (Clock timer, stop watch timer)
Programmable timer	Built-in, 2 inputs x 8 bits, with event counter function
Watchdog timer	Built-in
Sound generator	With envelope and 1-shot output functions
SVD circuit	16 values, programmable (1.85 to 3.30V) (It is possible to switch 1 value to the external voltage detection *1)
External interrupt	Input port interrupt: 2 systems
Internal interrupt	Clock timer interrupt: 4 systems Stopwatch timer interrupt: 2 systems Programmable timer interrupt: 2 systems Serial interface interrupt: 1 systems
Operating temperature range	-20 to 70°C
Current consumption (Typ.)	Single clock (OSC1: Crystal oscillation): During HALT (32 kHz) 3.0V (LCD OFF) 1 µA 3.0V (LCD ON, V_{C1} standard) 6 µA 3.0V (LCD ON, V_{C2} standard) 4 µA During operation (32kHz) 3.0V (LCD ON, V_{C1} standard) 10 µA Twin clock: During operation (4MHz) 3.0V (LCD power ON, V_{C1} standard) 1,000µA
Package	QFP8-144pin, QFP17-144pin, QFP5-128pin (plastic) or chip

*1 Can be selected with mask option.

*2 Can be selected with software.