S1C17705

EPSON
EXCEED YOUR VISION

Low Power 16-bit Single Chip Microcontroller

- Low power MCU (operating voltage 1.8V, 1.2uA/SLEEP, 2.7uA/HALT)
- Large capacity flash memory (512KByte), font data available
- LCD driver: 128seg x 32com
- Analog I/F: A/D converter (INL/DNL Max.1.5LSB), R/F converter (for temperature and humidity instruments)
- RISC CPU core S1C17: the compact code optimized for C, and high throughput of an instruction/clock, supports serial ICE

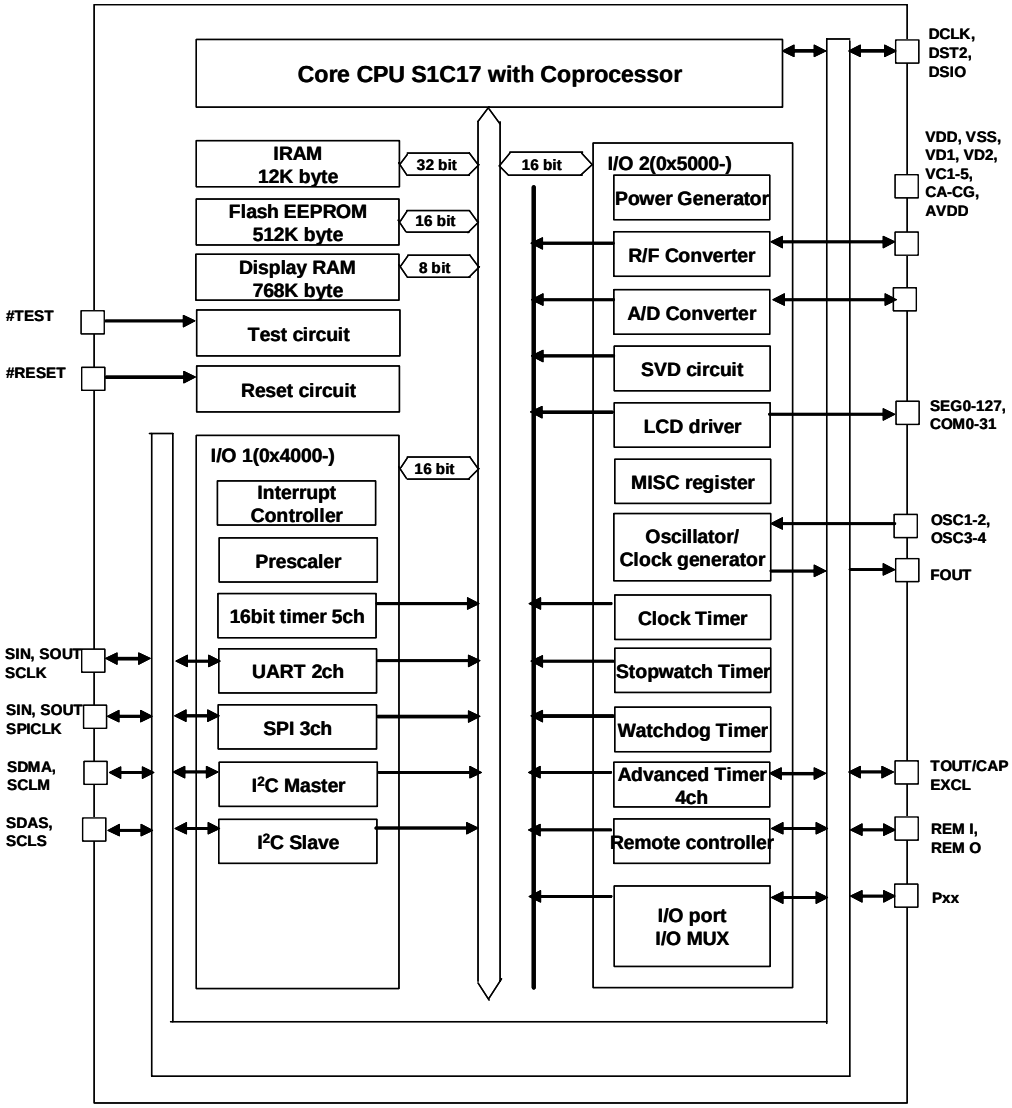
■ DESCRIPTIONS

The S1C17705 is a 16bit MCU that has achieved high processing speeds with low voltage operation, compact size, wide address space and on-chip ICE. The S1C17705 contents of a 512K byte large capacity flash memory, an LCD driver with Max .128 segment x 32 common outputs, A/D converter, R/F converter. Built-in flash memory can have the font data built-in such as 11x12 dot Japanese characters (JIS level-1, JIS level-2 and other kanji fonts), Hangul characters and User defined characters. The S1C17705 is suitable for battery driven applications with sensor interfaces and high-resolution LCD display such as remote controllers, healthcare products, and sports watches.

■ FEATURES

●CPU	EPSON originally 16bit RISC CPU core S1C17	
●Multiplier / Divider	16bit x 16bit +32bit multiplier accumulator, 16bit / 16bit divider	
●Built-in Oscillation circuit	2.7MHz (±20% , VDD=1.8V, Ta=25 degree C) , Oscillation start time 10uS (TBD)	
●OSC3 Oscillation circuit	Crystal oscillation circuit/ Ceramic oscillation circuit 8.2MHz (max.)@VDD=1.8V～3.6V	
●OSC1 Oscillation circuit	Crystal oscillation circuit 32.768KHz(typ.)	
●Built-in flash memory	512K byte, shared by instructions/data, Rewritable up to 1000 times, Read/programming protection function, On-board programming by a debug tools, and Self-rewritable using programming, can stored 11x12 dot font data	
●Built-in RAM	12KByte	
●Built-in display RAM	768Byte	
●A/D Converter	10bit resolution, INL/DNL±1.5LSB(max.), 100ksps(max.), AVDD=1.8V~3.6V, 8ch	
●R/F Converter	24bit counter, DC/AC drive select, 2ch	
●I/O ports	Max. 35 general-purpose I/O ports, Pins are shared with the peripheral I/O	
●Serial I/F	SPI (master/slave) 3ch、I2C (master) 1ch, I2C (slave) 1ch UART (IrDA1.0) 2ch, IR remote controller 1ch	
●Timers	16bit timer 5ch, Advanced timer 4ch, Clock timer 1ch, Stopwatch timer 1ch, and Watchdog timer 1ch	
●LCD Driver	128SEG×32COM, 1/5bias, 64 x 64 emulation RAM MAP Built-in power supply voltage booster circuit.	
●Supply voltage detector	15 programmable detection levels(1.8V~3.2V)	
●Interrupts	Reset, NMI, P port input(32ch), Serial I/F, Timer, LCD, SVD, ADC, RFC	
●Power supply voltage	VDD=1.8V~3.6V (for normal operation) VDD=2.5V~3.6V (for Flash erasing/programming） TBD	
●Power consumption	SLEEP stat:	1.2uA（typ.）
	HALT state:	2.7uA（typ.）(32KHzOSC1 crystal oscillator, LCD OFF)
	RUN state:	18uA（typ.）(32KHzOSC1 crystal oscillator, LCD OFF)
		550uA（typ.）(1MHzOSC3 ceramic oscillator, LCD OFF）
	A/D converter:	200uA（typ.）(AVDD=3.6V, sampling rate 100kHz)
●Shipping form	VFBGA10H-240	10 × 10mm(body) ball pitch 0.5mm
	QFP23-240PIN	32 × 32mm（body） pin pitch 0.5mm
	Chip	DIE PAD (90um pad pitch), DIE BUMP(90u pad pitch)

■ Block Diagram



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