

CMOS 32-bit Micro-controller

TMP94C251F

1. OUTLINE AND DEVICE CHARACTERISTICS

TMP94C251 is high-speed advanced 32-bit micro-controller developed for controlling equipment which processes mass data.

TMP94C251 is a micro-controller which has a high-performance CPU (900/H2 CPU) and various built-in I/Os. And TMP94C251 is enhanced memory interface functions. TMP94C251 is housed in an 144-pin mini flat package.

Device characteristics are as follows :

- (1) CPU : 32-bit CPU (900/H2 CPU)
 - Compatible with TLCS-900, 900/L, 900/H's instruction code
 - Minimum instruction execution time : 50 ns (at 20 MHz)
 - Internal data bus : 32-bit
 - External data bus : 8/16-bit
- (2) Internal memory
 - Internal RAM : 2K-byte (can use for code section)
 - Internal ROM : None
- (3) Address space
 - 16M-byte linear address space (memory mapped I/O)
- (4) Micro DMA : 8 channels
 - Execution time : 250ns/4bytes (at 20 MHz, best case)
 - Terminal count output (4 channels)
- (5) Chip select output : 6 channels
- (6) DRAM Controller : 2 channels
 - Direct interface
 - Supported fast page mode
 - Supported 8-, 16-bit external data buses
- (7) Timer/Counter
 - 8-bit timer : 4 channels
 - 16-bit timer : 4 channels

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- (8) Serial interface : 2 channels
- (9) 10-bit A/D converter : 8 channels (with sample hold circuit)
- (10) 8-bit D/A converter : 2 channels (with CMOS-AMP)
- (11) Interrupt controller
 - 18 internal interrupts
 - 10 external interrupts
- (12) Watch dog timer
- (13) I/O port : 64 pins
- (14) Package : 144-pin QFP

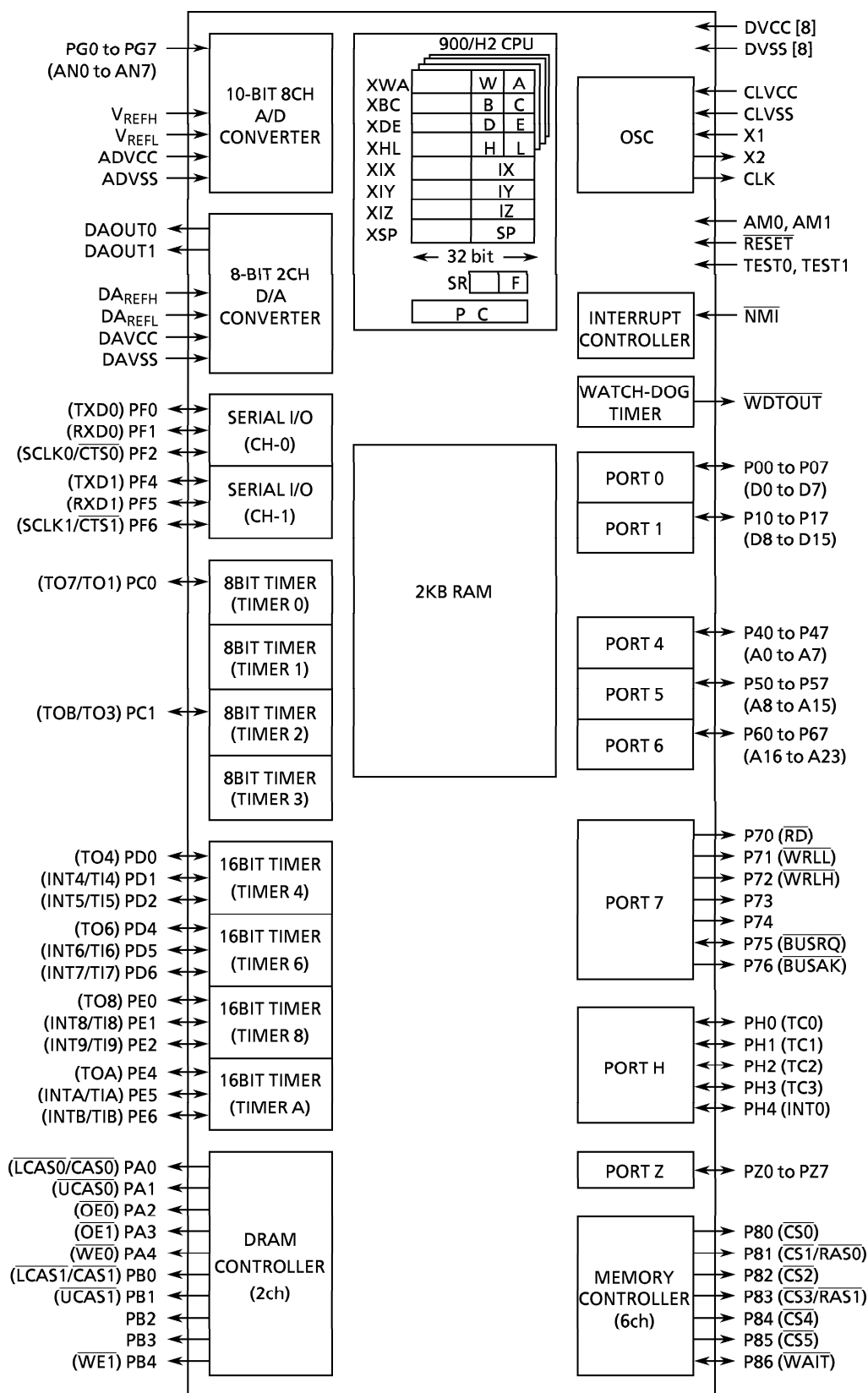


Figure 1 TMP94C251 Block Diagram