Integrated Device Technology, Inc.

CMOS DUAL-PORT RAM 32K (4K x 8-BIT) WITH SEMAPHORE

ADVANCE INFORMATION
IDT71341S
IDT71341L

FEATURES:

- High-speed access
  - —Military: 55/70/90/100ns (max.)
  - —Commercial: 45/55/70/90ns (max.)
- Low-power operation
  - —IDT71341S
    Active: 325mW (typ.)
    Standby: 5mW (typ.)
  - —IDT71341L
    Active: 325mW (typ.)
    Standby: 1mW (typ.)
- Fully asynchronous operation from either port
- Full on-chip hardware support of semaphore signalling between ports
- Battery backup operation — 2V data retention
- TTL compatible, single 5V (±10%) power supply
- Military product 100% screened to MIL-STD-883, Class B

DESCRIPTION:

The IDT71341 is an extremely high-speed 4K x 8 dual-port static RAM with full on-chip hardware support of semaphore signalling between the two ports.

The IDT71341 provides two independent ports with separate control, address and I/O pins that permit independent, asynchronous access for reads and writes to any location in memory. It is the user's responsibility to ensure data integrity when simultaneously accessing the same memory location from both ports. To assist in arbitrating between ports, a fully independent semaphore logic block is provided. An automatic power down feature, controlled by $\overline{CE}$ and $\overline{SEM}$, permits the on-chip circuitry of each port to enter a very low standby power mode (both $\overline{CE}$ and $\overline{SEM}$ high).

Fabricated using IDT's CEMOS™ high-performance technology, this device typically operates on only 325mW of power at maximum access times as fast as 45ns. Low-power (L) versions offer battery backup data retention capability with each port typically consuming 200μW from a 2V battery.

The IDT71341 military devices are available 100% processed in compliance to the test methods of MIL-STD-883, Class B, Method 5004.

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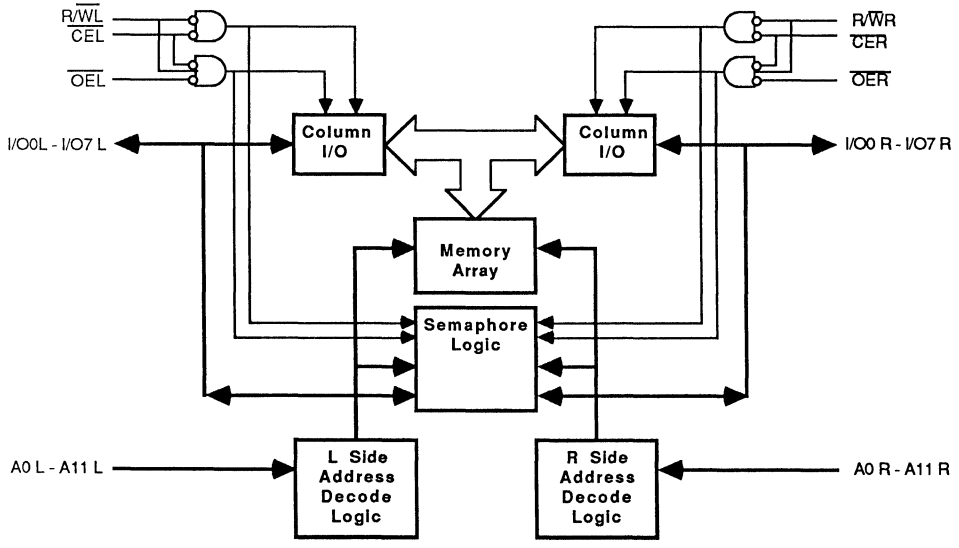
FUNCTIONAL BLOCK DIAGRAM



SRD71341-001

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