



Integrated Device Technology, Inc.

# CMOS DUAL-PORT RAM 16K (2K x 8-BIT) WITH SEMAPHORE

**ADVANCE  
INFORMATION  
IDT71322S  
IDT71322L**

## FEATURES:

- High-speed access
  - Military: 55/70/90/100ns (max.)
  - Commercial: 45/55/70/90ns (max.)
- Low-power operation
  - IDT71322S
    - Active: 325mW (typ.)
    - Standby: 5mW (typ.)
  - IDT71322L
    - 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 IDT71322 is an extremely high-speed 2K x 8 dual-port static RAM with full on-chip hardware support of semaphore signalling between the two ports.

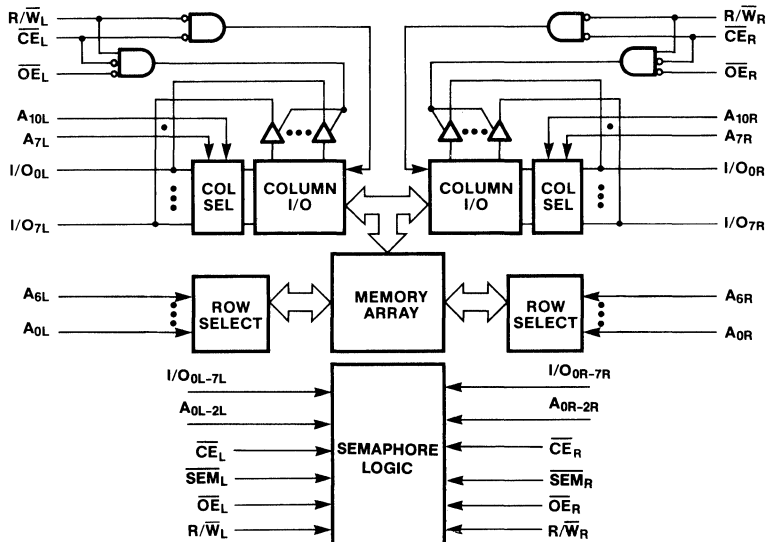
The IDT71322 provides two independent ports with separate control, address and I/O pins that permit independent, asynchronous access for reads and writes to any location in memory. It is the user's responsibility to ensure data integrity when simultaneously accessing the same memory location from both 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 SEM permits the on-chip circuitry of each port to enter a very low standby power mode.

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 IDT71322 is packaged in either a 48-pin sidebraze or plastic DIP or 52-pin LCC, with the military devices available 100% processed in compliance to the test methods of MIL-STD-883, Method 5004.

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## FUNCTIONAL BLOCK DIAGRAM



SRD71322-001

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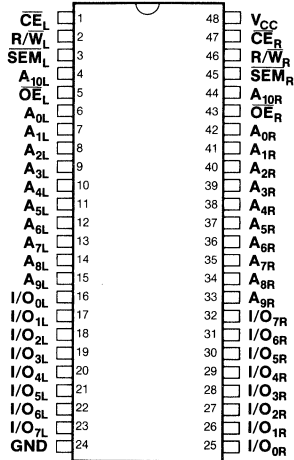
**MILITARY AND COMMERCIAL TEMPERATURE RANGES**

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PIN CONFIGURATIONS



SRD71322-002

