Integrated Device Technology, Inc.

1 MEGABIT (128K x 8-BIT) CMOS STATIC RAM MODULE

ADVANCE INFORMATION
IDT8M824

FEATURES:

- High-density 1024K-bit (128K x 8) CMOS static RAM module
- Equivalent to JEDEC standard for future monolithic 128K x 8 static RAMs
- High-speed — 60ns (max.) commercial; 75ns (max.) military
- Low-power consumption; typically less than 500mW operating, less than 150μW in standby
- CEMOS™ process virtually eliminates alpha particle soft error rates (with no organic die coating)
- Assembled with IDT's high-reliability vapor phase solder reflow process
- Offered in the JEDEC standard 32-pin, 600 mil wide ceramic sidebraze DIP
- Single 5V (±10%) power supply
- Inputs and outputs directly TTL-compatible
- Modules available with semiconductor components 100% screened to MIL-STD-883, Class B
- Finished modules tested at Room, Hot and Cold temperatures for all AC and DC parameters as per customer requirements

DESCRIPTION:

The IDT8M824 is a 1024K (131,072 x 8) bit high-speed static RAM constructed on a co-fired ceramic substrate using four IDT71256 32K x 8 static RAMs in leadless chip carriers. Functional equivalence to proposed monolithic one megabit static RAMs is achieved by utilization of an on-board decoder that interprets the higher order addresses A_{15} and A_{16} to select one of the four 32K x 8 RAMs. Extremely fast speeds can be achieved with this technique due to use of 256K static RAMs and the decoder fabricated in IDT's high-performance, high-reliability technology, CEMOS.

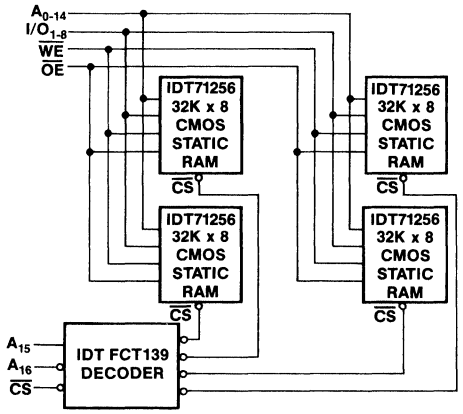
The IDT8M824 is available with maximum access times as fast as 60ns for commercial and 75ns for military temperature ranges, with maximum power consumption of 1.0 watts. The circuit also offers a reduced power standby mode. When $\overline{CS}$ goes high, the circuit will automatically go to a substantially lower power mode with maximum power consumption of only 85mW.

The IDT8M824 is offered in a 32-pin, 600 mil center sidebraze DIP, adhering to JEDEC standards for one megabit monolithic pinouts, allowing for compatibility with future monolithics.

All inputs and outputs of the IDT8M824 are TTL-compatible and operate from a single 5V supply. Fully asynchronous circuitry is used requiring no clocks or refreshing for operation, and provides equal access and cycle times for ease of use.

All IDT military module semiconductor components are 100% processed to the test methods of MIL-STD-883, Class B, as well as being qualified to requirements patterned after Methods 5004 and 5005, making them ideally suited to applications demanding the highest level of performance and reliability.

FUNCTIONAL BLOCK DIAGRAM



SRD8M824-001

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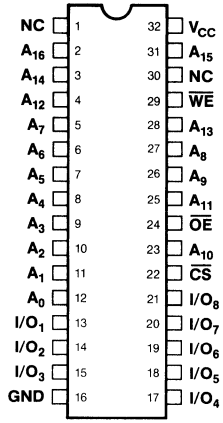
PIN CONFIGURATION



DIP
TOP VIEW

SRD8M824-002

PIN NAMES

A_{0-16}	Addresses
I/O_{1-8}	Data Input/Output
$\overline{CS}$	Chip Select
V_{CC}	Power
$\overline{WE}$	Write Enable
$\overline{OE}$	Output Enable
GND	Ground