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## Announcements

First 8GB RACE++ VME board to include quad Serial FPDP ports...

A/D converter with six 14-bit 105 MHz channels, dual RACE++ and 8GB in a single VME slot...

$\mu$ mem™ NVRAM cards now available with up to 16GB of battery-backed SDRAM...

## Tech Notes

Crossing Boundaries: Overcoming the 256 MB limitation in RACE and MC/OS...

Basics of PCI memory mapping...

NAND vs. NOR: Different types of Flash memory for different types of applications...

## Product Spec Sheets

Please Select One: ▼

## MM-6296D

1Gigabyte VME/VME64 DRAM Memory Module

### FEATURES:

Capacity: 256M, 512M, 768M and 1 GB
Cycle/Access Time
Random Read: 200/175 nsec.
Random Write: 175/50 nsec.
Block Transfer Read: 100/70 nsec.
Block Transfer Write: 100/45 nsec.
Operating Temperature
Standard: 0°C to +60°C
Extended -15°C to +70°C
Semi-ruggedized to up to 12 G's of vibration
Module selection on 1 megabyte boundaries with switch-selectable lower and upper limits
VME bus compatible per Rev. D A32/A24,D64/D32/D16/D8 (UAT)
Parity generation and checking on each byte

### DESCRIPTION:

The MM-6296 provides up to 1gigabyte of DRAM memory with a 64-bit transfer at up to 80 megabytes/sec. It is available in a standard operating temperature version (the MM-6296D) or an extended temperature version (the MM-6296DR).

The MM-6296 supports block modes of A32/A24,D64/D32/D16/D8. Bank switching is provided through a Control Software Register in the I/O which expands to more than 4 gigabytes.

Each 8-bit byte has an associated bit for parity error detection. Parity status is stored and transmitted via BERR\*; asserting BERR\* inhibits the DTAK\* signal during memory read operations.

The MM-6296 is supported with anodized stiffeners to meet strenuous vibration requirements. All units are screened through a temperature cycling process from -15°C to +70°C for extended temperature applications. Each unit then goes through a rigorous quality inspection which includes a 48 hour burn-in process while running diagnostics. These procedures enable Micro Memory to offer a LIFETIME WARRANTY on all DRAM modules.

### MM-6296D Specifications

- ▶ **Capacity** : 256M, 512M, 768M, 1Gigabyte
- ▶ **Cycle/Access Time (nsec)** :  
Random Read: 200/175 nsec.; Write: 175/50 nsec.  
Block Transfer Read: 100/70 nsec.; Write: 100/45 nsec.
- ▶ **Address** : 132/A24 address bits
- ▶ **Data In/Data Out** : D64/D32/D16/D8
- ▶ **Interface** : VME bus-compatible per Rev. D
- ▶ **Modes of Operation** : Read, Write, Read-Modify-Write, long word , unaligned, block transfer
- ▶ **Memory Selection** : 1 Mbyte boundaries, switch-selectable for the upper and

- ▶ **Memory Selection** : 1 Mbyte boundaries, switch selectable for the upper and lower limits
- ▶ **Board Paging** : Software Control through a 1 byte Read/Write CSR in the I/O field to enable/disable each memory module. Boards are in the Enable mode on Power-Up
- ▶ **Operating Temperature** : Standard Operation: 0°C to +60°C, Extended Operation: -15°C to +70°C
- ▶ **Storage Temperature** : -40 to +85°C
- ▶ **Relative Humidity** : Up to 95% without condensation
- ▶ **Vibration** : Up to 12G
- ▶ **Conformal Coating** : On Demand for extended operation
- ▶ **Power Requirements 5V (Fully Populated)** : Operate 4.6A (max)



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