# 64-BIT RANDOM ACCESS MEMORY

# MC4364
# MC4064

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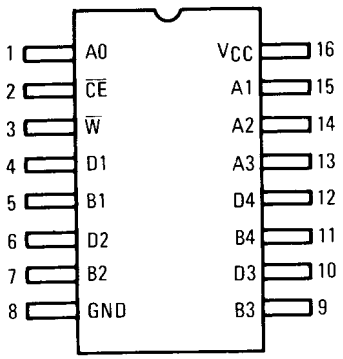
The **MC4364/4064** is a 64-Bit random access memory organized as a 16-word by 4-bit array. Schottky-diode-clamped transistors are utilized to obtain fast switching speeds, and Schottky clamp diodes are used on all inputs to provide minimum line reflection. The high speed of this memory makes it ideal in scratch pad operation.

Address decoding is incorporated in the circuit providing 1-of-16 decoding from the four address lines. Separate Data In and Data Out lines, together with a Chip Enable provide for easy expansion of memory capacity. A Write is provided to enable data presented at the Data In lines to be entered at the addressed storage cells. When writing, Data Out is the complement of the Data In.

The open-collector output transistors are also Schottky barrier devices and combine greater current sinking capability with lower leakage currents, thereby increasing the wire-OR capability of these devices.

- Both Minimum and Maximum Access Times Specified
- Binary Addressing
- Chip Enable for Memory Expansion
- Outputs May Be "Wire ORed"
- Logic Levels Compatible with MDTL and All MTTL Families
- Low-Voltage Input Clamp Diodes
- Access Time < 60 ns
- Power Dissipation Typically 6 mW/bit
- Outputs Sink 15 mA

PIN ASSIGNMENT




**TRUTH TABLE**

| $\overline{W}$ | D | $\overline{CE}$ | DATA OUT |
|---|---|---|---|
| 0 | 0 | X | 1 |
| 0 | 1 | X | 0 |
| 1 | X | 0 | Read |
| 1 | X | 1 | 1 |

X = Don't Care

**MAXIMUM RATINGS**

| Rating | Symbol | Value | Unit |
|---|---|---|---|
| Supply Voltage | $V_{CC}$ | 7.0 | Vdc |
| Input Voltage – All Inputs | $V_{in}$ | 5.5 | Vdc |
| Output Voltage – All Outputs | $V_D$ | 5.5 | Vdc |
| Output Current | $I_D$ | 100 | mAdc |
| Operating Temperature Range – MCM4364L<br>– MCM4064L | $T_A$ | -55 to +125<br>0 to +85 | °C |
| Thermal Resistance, Junction to Ambient (Typical) | $\theta_{JA}$ | 110 | °C/W |
| Thermal Resistance, Junction to Case (Typical) | $\theta_{JC}$ | 60 | °C/W |
| Storage Temperature Range | $T_{stg}$ | -65 to +160 | °C |

**BLOCK DIAGRAM**