



MM54C89/MM74C89 64-Bit TRI-STATE® Random Access Read/Write Memory

General Description

The MM54C89/MM74C89 is a 16-word by 4-bit random access read/write memory. Inputs to the memory consist of four address lines, four data input lines, a write enable line and a memory enable line. The four binary address inputs are decoded internally to select each of the 16 possible word locations. An internal address register, latches the address information on the positive to negative transition of the memory enable input. The four TRI-STATE® data output lines working in conjunction with the memory enable input provides for easy memory expansion.

Address Operation: Address inputs must be stable t_{SA} prior to the positive to negative transition of memory enable. It is thus not necessary to hold address information stable for more than t_{HA} after the memory is enabled (positive to negative transition of memory enable).

Note: The timing is different that the DM7489 in that a positive to negative transition of the memory enable must occur for the memory to be selected.

Write Operation: Information present at the data inputs is written into the memory at the selected address by bringing write enable and memory enable low.

Read Operation: The complement of the information which was written into the memory is non-destructively read out at the four outputs. This is accomplished by selecting the desired address and bringing memory enable low and write enable high.

When the device is writing or disabled the output assumes a TRI-STATE (Hi-z) condition.

Features

- Wide supply voltage range 3.0V to 15V
- Guaranteed noise margin 1.0V
- High noise immunity $0.45 V_{CC}$ (typ.)
- Low power TTL compatibility fan out of 2 driving 74L
- Low power consumption 100 nW/package (typ.)
- Fast access time 130 ns (typ.) at $V_{CC} = 10V$
- TRI-STATE output

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See page 4-3
for Detailed
Specifications