## National Semiconductor

## MM54C920/MM74C920, MM54C921/MM74C921 1024-Bit Static Silicon Gate CMOS RAMs

## **General Description**

The MM54C920/MM74C920  $256 \times 4$  random access read/ write memory is manufactured using silicon gate CMOS technology. Data output is the same polarity as data input. Internal latches store address inputs, CES and data output. This RAM is specifically designed to operate from standard 54/74 TTL power supplies. All inputs and outputs are TTL compatible.

The MM54C921/MM74C921 is identical to the MM54C920/ MM74C920, except data inputs are internally connected to data outputs; the number of package leads is thereby reduced to 18.

Complete address decoding as well as 2-chip select functions, CEL and CES, and TRI-STATE® outputs allow easy expansion with a minimum of external components. Versatility plus high speed and low power make these RAMs ideal elements for use in microprocessor, minicomputer, as well as main frame memory applications.

## Features

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- 256×4-bit organization
  - Access time 250 ns max. MM74C920, MM74C921 275 ns max. MM54C920, MM54C921 300 ns max. MM74C920-3, MM74C921-3
- TRI-STATE outputs
- Low power
- On-chip registers
- Single 5V supply
- Data retained with V<sub>CC</sub> as low as 2V

See page 4–15 for detailed specifications