



# MOTOROLA

## 4 X 4 CROSSPOINT SWITCH WITH CONTROL MEMORY

The MC142100 and MC145100 consist of 16 crosspoint switches (analog transmission gates) organized in 4 rows and 4 columns. Both devices have 16 latches, each of which controls the state of a particular switch. Any of the 16 switches can be selected by applying its address to the device and a pulse to the strobe input. The selected crosspoint will turn on if during strobe, Data In was a one and will turn off if during strobe, Data In was a zero. In addition the MC145100 will reset all non-selected switches in the same row as the selected switch. Other switches are unaffected. In the MC145100, an internal power-on reset turns off all switches as power is applied.

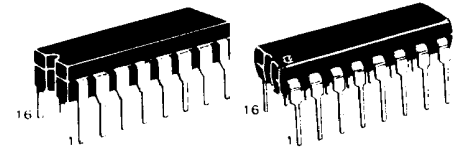
- Internal Latches Control State of Switches
- Power-On Reset (MC145100 Only)
- Low On Resistance — Typically on  $110 \Omega$  @ 10 Vdc
- Large Analog Range ( $V_{DD}$ -VSS)
- All Pins Are Diode Protected
- Matched Switch Characteristics
- High CMOS Noise Immunity
- MC142100 Pin-for-Pin Replacement for CD22100

# MC142100 MC145100

## CMOS MSI

(LOW-POWER COMPLEMENTARY MOS)

## 4 X 4 CROSSPOINT SWITCH WITH CONTROL MEMORY



**L SUFFIX**  
CERAMIC PACKAGE  
CASE 620

**P SUFFIX**  
PLASTIC PACKAGE  
CASE 648

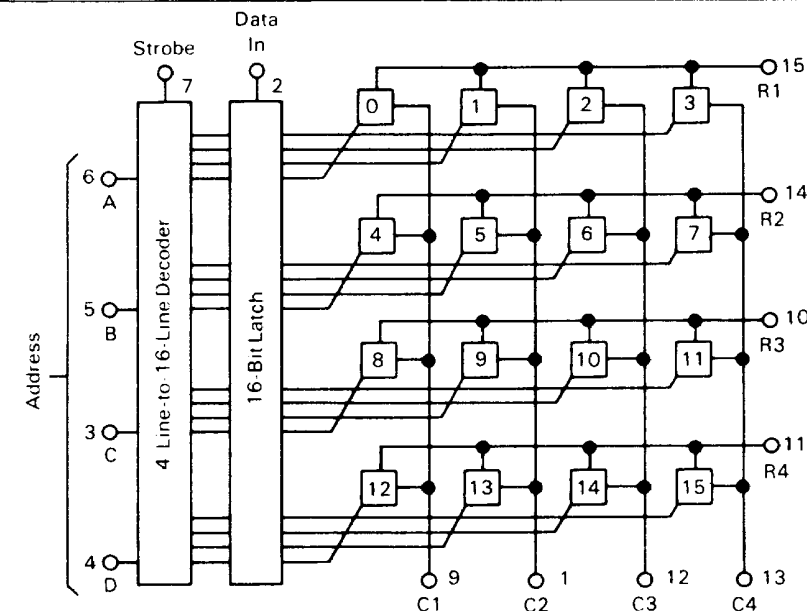
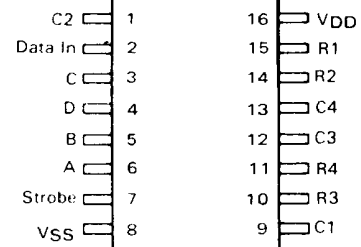
## ORDERING INFORMATION

MC14XXXX

Suffix Denotes

- L Ceramic Package
- P Plastic Package
- A Extended Operating Temperature Range
- C Limited Operating Temperature Range

## PIN ASSIGNMENTS



## MAXIMUM RATINGS (Voltages referenced to VSS, Pin 8)

| Rating                      | Symbol    | Value                                    | Unit               |
|-----------------------------|-----------|------------------------------------------|--------------------|
| DC Supply Voltage           | $V_{DD}$  | -0.5 to +18                              | Vdc                |
| Input Voltage, All Inputs   | $V_{in}$  | -0.5 to $V_{DD} + 0.5$                   | Vdc                |
| Through Current             | I         | 25                                       | mA                 |
| Operating Temperature Range | $T_A$     | -55 to +125<br>AL Device<br>CL/CP Device | $^{\circ}\text{C}$ |
| Storage Temperature Range   | $T_{stg}$ | -65 to +150                              | $^{\circ}\text{C}$ |

This device contains circuitry to protect the inputs against damage due to high static voltages or electric fields; however, it is advised that normal precautions be taken to avoid application of any voltage higher than maximum rated voltages to this high impedance circuit. For proper operation it is recommended that  $V_{in}$  and  $V_{out}$  be constrained to the range  $V_{SS} \leq (V_{in} \text{ or } V_{out}) \leq V_{DD}$ . Unused control inputs must always be tied to an appropriate logic voltage level (e.g., either VSS or VDD).