



MICRO POWER SYSTEMS INC

**MP7508DI**

T-51-11

## CMOS 8-CHANNEL ANALOG MULTIPLEXERS

### FEATURES

- Latch-Proof
- Overvoltage Protected
- DTL/TTL/CMOS Direct Interface
- Power Dissipation: 30μW
- Silicon-Nitride Passivated
- Output "Enable" Control
- Low Power
- Replaces DG508 and HI508A

### GENERAL DESCRIPTION

The MP7508 is a monolithic, CMOS 8-channel analog multiplexer. Depending on the state of three binary address lines and an "enable" input, it switches a common output to one of 8 inputs.

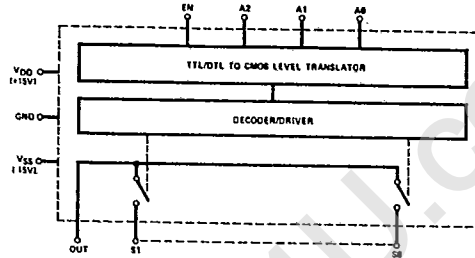
Very low power dissipation, overvoltage protection and TTL/CMOS direct interfacing are achieved by combining a unique circuit design and a CMOS process. Silicon nitride passivation ensures long term stability while monolithic construction provides reliability.

### ABSOLUTE MAXIMUM RATINGS

(T<sub>A</sub>=+25°C unless otherwise noted.)

|  |  |
|--|--|
| V <sub>DD</sub> to GND .....                                   | +17V   |
| V <sub>SS</sub> to GND .....                                   | -17V   |
| Overvoltage at V <sub>O</sub> (V <sub>S</sub> )                |  |
| 1 second surge .....   | V <sub>DD</sub> +25V or (V <sub>SS</sub> -25V) |
| Continuous .....   | V <sub>DD</sub> +20V or (V <sub>SS</sub> -20V) |
| Switch Current (I <sub>S</sub> , Continuous) .....             | 35 mA  |
| Switch Current (I <sub>S</sub> , Surge)                        |  |
| 1mS duration, 10% duty cycle .....                             | 50 mA  |
| Power Dissipation (Package)*                                   |  |
| 16 Pin Ceramic DIP** .....                                     | 900mW  |
| 16 Pin Plastic DIP*** .....                                    | 470mW  |
| * Device mounted with all leads soldered or welded to PC board |  |
| ** Derate 12mW/°C above +75°C                                  |  |
| *** Derate 6.5mW/°C above +25°C                                |  |
| Operating Temperature  |  |
| Plastic (KN) .....   | 0°C to +70°C                                   |
| Ceramic (KD) .....   | -25°C to +85°C                                 |
| Ceramic (SD) .....   | -55°C to +125°C                                |
| Storage Temperature .....                                      | -65°C to +150°C                                |

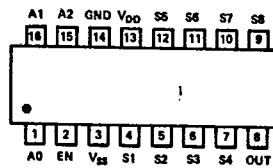
### FUNCTIONAL DIAGRAM



### TRUTH TABLE

| MP7508         |                |                |                     |      |
|----------------|----------------|----------------|---------------------|------|
| A <sub>2</sub> | A <sub>1</sub> | A <sub>0</sub> | E <sub>N</sub> "ON" |      |
| 0              | 0              | 0              | 1                   | 1    |
| 0              | 0              | 1              | 1                   | 2    |
| 0              | 1              | 0              | 1                   | 3    |
| 0              | 1              | 1              | 1                   | 4    |
| 1              | 0              | 0              | 1                   | 5    |
| 1              | 0              | 1              | 1                   | 6    |
| 1              | 1              | 0              | 1                   | 7    |
| 1              | 1              | 1              | 1                   | 8    |
| X              | X              | X              | 0                   | None |

### PIN CONFIGURATION (Top View)



See Section 7 for Ordering Information

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