

# Dual Schottky Diode Bridge

## FEATURES

- Monolithic Eight-Diode Array
- Exceptional Efficiency
- Low Forward Voltage
- Fast Recovery Time
- High Peak Current
- Small Size

## DESCRIPTION

This eight-diode array is designed for high-current, low duty-cycle applications typical of flyback voltage clamping for inductive loads. The dual bridge connection makes this device particularly applicable to bipolar driven stepper motors.

The use of Schottky diode technology features high efficiency through lowered forward voltage drop and decreased reverse recovery time.

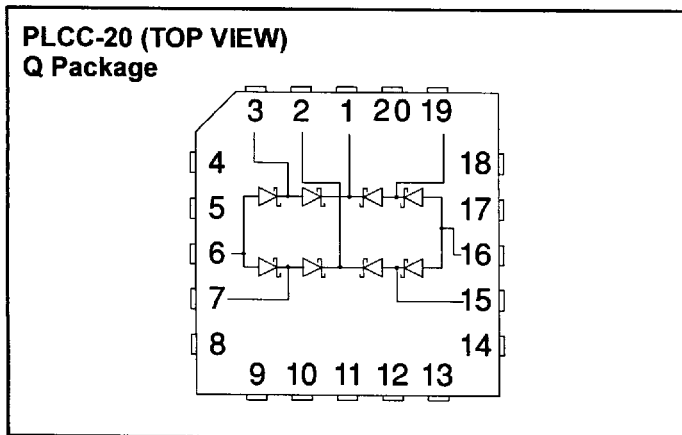
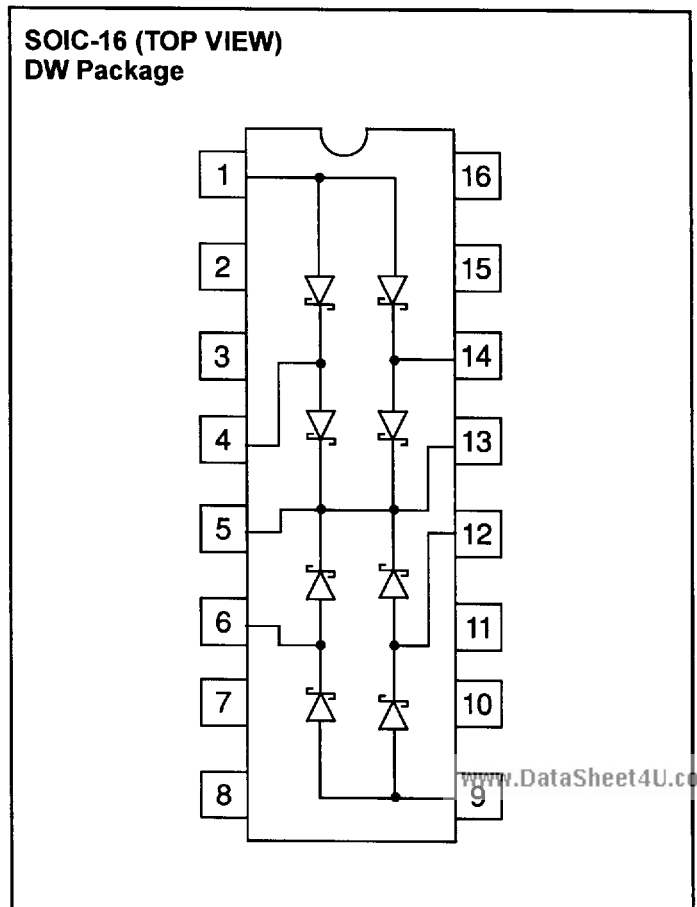
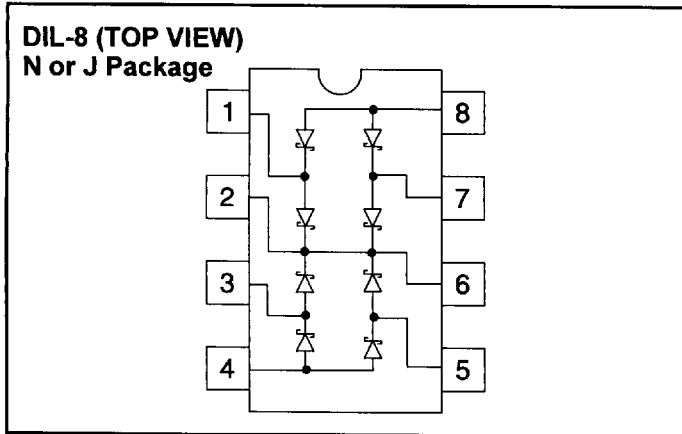
This single monolithic chip is fabricated in both hermetic CERDIP and copper-leaded plastic packages. The UC1610 in ceramic is designed for -55°C to +125°C environments but with reduced peak current capability. The UC2610 in plastic and ceramic is designed for -25°C to +125°C environments also with reduced peak current capability; while the UC3610 in plastic has higher current rating over a 0°C to +70°C temperature range.

## ABSOLUTE MAXIMUM RATINGS

|  |                 |
|--|-----------------|
| Peak Inverse Voltage (per diode) .....         | 50V             |
| Peak Forward Current                           |                 |
| UC1610 .....                                   | 1A              |
| UC2610 .....                                   | 1A              |
| UC3610 .....                                   | 3A              |
| Power Dissipation at TA = +70°C .....          | 1W              |
| Storage Temperature Range .....                | -65°C to +150°C |
| Lead Temperature (Soldering, 10 Seconds) ..... | 300°C           |

*Note: Consult Packaging Section of Databook for thermal limitations and considerations of package.*

## CONNECTION DIAGRAMS



**ELECTRICAL CHARACTERISTICS:** All specifications apply to each individual diode.  $T_J = 25^\circ\text{C}$  except as noted.  $T_A = T_J$ .

| PARAMETER            | TEST CONDITIONS                              | MIN  | TYP | MAX | UNITS |
|----------------------|--|------|-----|-----|-------|
| Forward Voltage Drop | $I_F = 100\text{mA}$                         | 0.35 | 0.5 | 0.7 | V     |
|                      | $I_F = 1\text{A}$                            | 0.8  | 1.0 | 1.3 | V     |
| Leakage Current      | $V_R = 40\text{V}$                           |      | .01 | 0.1 | mA    |
|                      | $V_R = 40\text{V}, T_J = +100^\circ\text{C}$ |      | 0.1 | 1.0 | mA    |
| Reverse Recovery     | 0.5A Forward to 0.5A Reverse                 |      | 15  |     | ns    |
| Forward Recovery     | 1A Forward to 1.1V Recovery                  |      | 30  |     | ns    |
| Junction Capacitance | $V_R = 5\text{V}$                            |      | 70  |     | pF    |

Note: At forward currents of greater than 1.0A a parasitic current of approximately 10mA may be collected by adjacent diodes.

