

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.

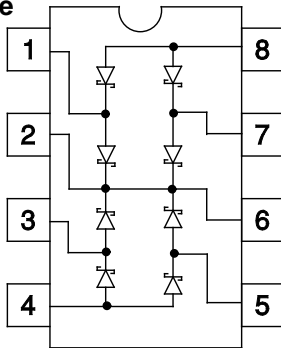
ABSOLUTE MAXIMUM RATINGS

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

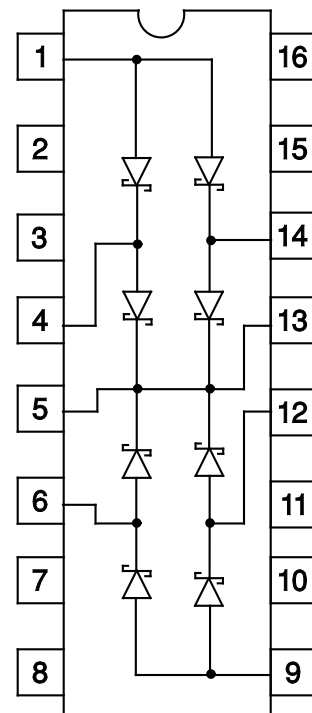
Note: Consult Packaging Section of Databook for thermal limitations and considerations of package.

CONNECTION DIAGRAMS

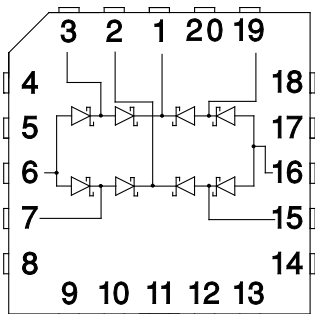
DIL-8 (TOP VIEW)
N or J Package



SOIC-16 (TOP VIEW)
DW Package



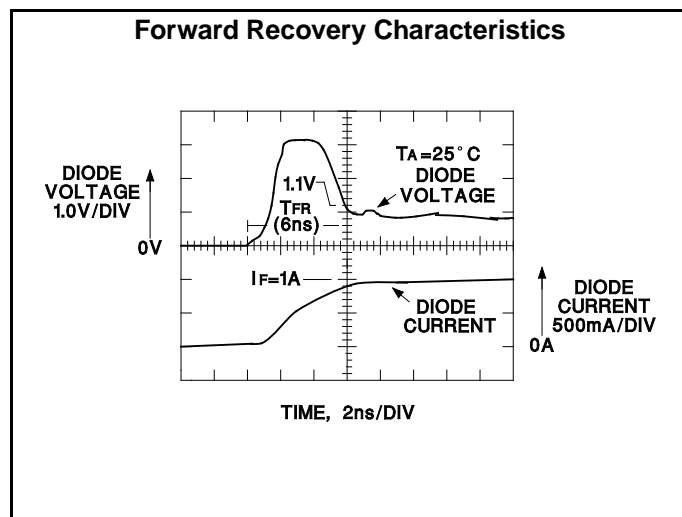
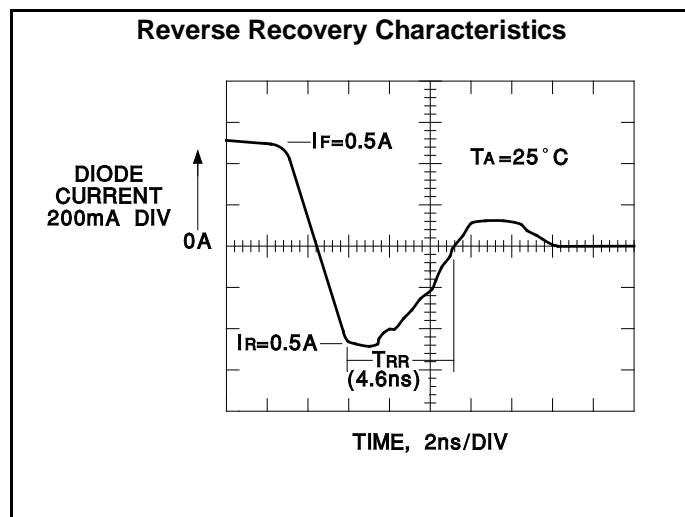
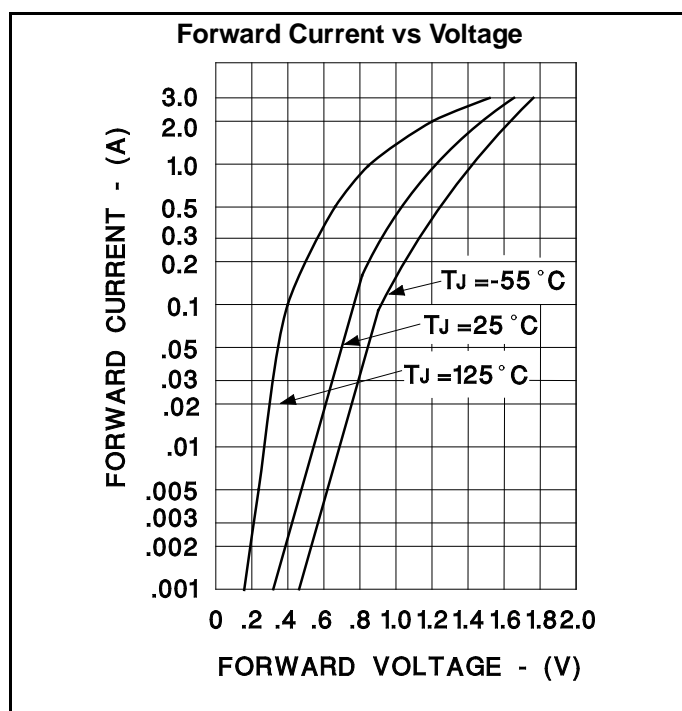
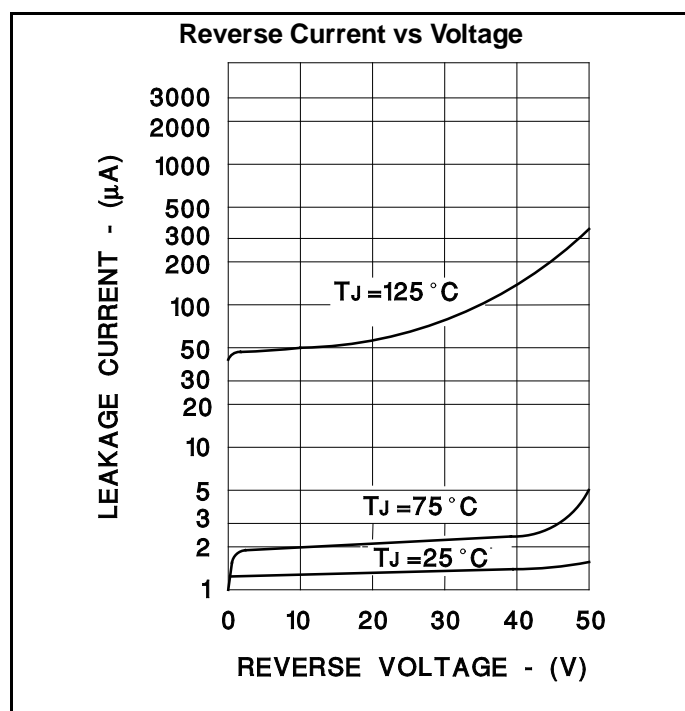
PLCC-20 (TOP VIEW)
Q Package



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.



IMPORTANT NOTICE

Texas Instruments and its subsidiaries (TI) reserve the right to make changes to their products or to discontinue any product or service without notice, and advise customers to obtain the latest version of relevant information to verify, before placing orders, that information being relied on is current and complete. All products are sold subject to the terms and conditions of sale supplied at the time of order acknowledgement, including those pertaining to warranty, patent infringement, and limitation of liability.

TI warrants performance of its semiconductor products to the specifications applicable at the time of sale in accordance with TI's standard warranty. Testing and other quality control techniques are utilized to the extent TI deems necessary to support this warranty. Specific testing of all parameters of each device is not necessarily performed, except those mandated by government requirements.

CERTAIN APPLICATIONS USING SEMICONDUCTOR PRODUCTS MAY INVOLVE POTENTIAL RISKS OF DEATH, PERSONAL INJURY, OR SEVERE PROPERTY OR ENVIRONMENTAL DAMAGE ("CRITICAL APPLICATIONS"). TI SEMICONDUCTOR PRODUCTS ARE NOT DESIGNED, AUTHORIZED, OR WARRANTED TO BE SUITABLE FOR USE IN LIFE-SUPPORT DEVICES OR SYSTEMS OR OTHER CRITICAL APPLICATIONS. INCLUSION OF TI PRODUCTS IN SUCH APPLICATIONS IS UNDERSTOOD TO BE FULLY AT THE CUSTOMER'S RISK.

In order to minimize risks associated with the customer's applications, adequate design and operating safeguards must be provided by the customer to minimize inherent or procedural hazards.

TI assumes no liability for applications assistance or customer product design. TI does not warrant or represent that any license, either express or implied, is granted under any patent right, copyright, mask work right, or other intellectual property right of TI covering or relating to any combination, machine, or process in which such semiconductor products or services might be or are used. TI's publication of information regarding any third party's products or services does not constitute TI's approval, warranty or endorsement thereof.