

Dual Schottky Diode

FEATURES

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

DESCRIPTION

The two-diode array is designed for high-current, low duty-cycle applications typical of flyback voltage clamping for inductive loads.

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 hermetic Cerdip as well as copper leaded plastic MINIDIP and SOIC surface mount power pack. The UC1612 in ceramic is designed for -55°C to $+125^{\circ}\text{C}$ environments, but with reduced peak current capability; while the UC3612 has higher current rating over a 0°C to $+70^{\circ}\text{C}$ ambient temperature range.

ABSOLUTE MAXIMUM RATINGS

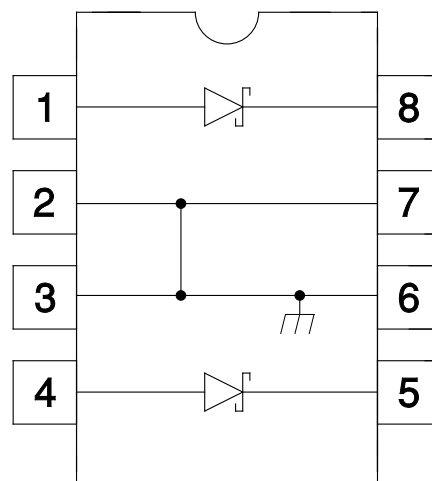
Peak Inverse Voltage (per diode)	.50V
Peak Forward Current, UC3612	.3A
Peak Forward Current, UC1612	.1A
Storage Temperature Range	-65°C to $+150^{\circ}\text{C}$
Junction Temperature	-55°C to $+150^{\circ}\text{C}$
Lead Temperature (Soldering, 10 seconds)	300°C

Currents are positive into, negative out of the specified terminal.

Consult Packaging Section of Databook for thermal limitations and considerations of packages.

CONNECTION DIAGRAM

DIL-8, SOIC-8
(Top View)
J, N, or DP Package

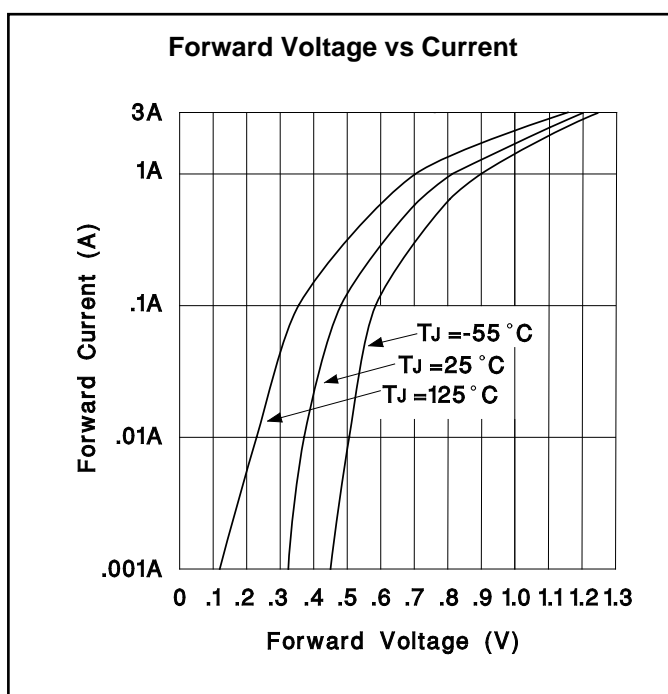
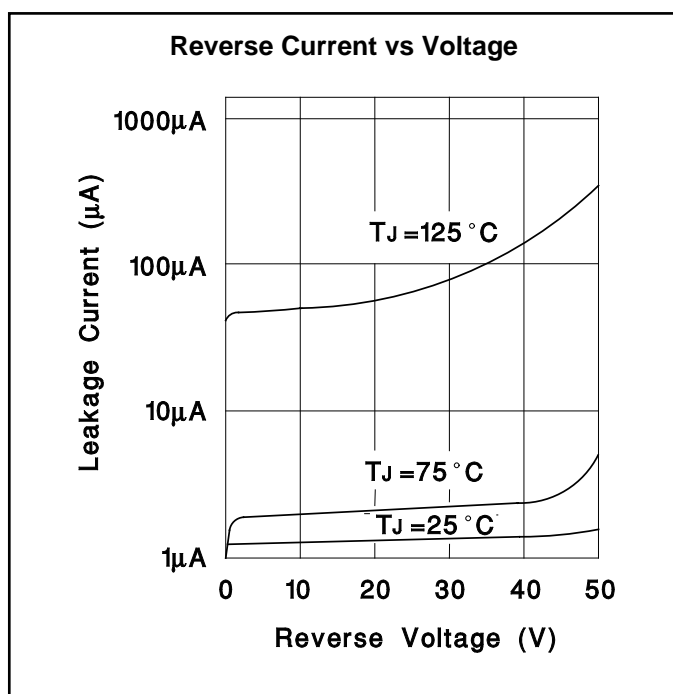


Pins 2, 3, 6, 7 are connected to substrate and must be electrically isolated.

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

PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Forward Leakage Drop	$I_F = 100\text{mA}$		0.49	0.55	V
	$I_F = 1\text{A}$		0.9	1.0	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.



PACKAGING INFORMATION

Orderable Device	Status ⁽¹⁾	Package Type	Package Drawing	Pins	Package Qty	Eco Plan ⁽²⁾	Lead/Ball Finish	MSL Peak Temp ⁽³⁾
UC1612J	OBSOLETE		UTR	8		None	Call TI	Call TI
UC1612L	OBSOLETE		UTR			None	Call TI	Call TI
UC3612DP	OBSOLETE		UTR	8		None	Call TI	Call TI
UC3612J	OBSOLETE		UTR			None	Call TI	Call TI
UC3612N	OBSOLETE		UTR	8		None	Call TI	Call TI

⁽¹⁾ The marketing status values are defined as follows:

ACTIVE: Product device recommended for new designs.

LIFEBUY: TI has announced that the device will be discontinued, and a lifetime-buy period is in effect.

NRND: Not recommended for new designs. Device is in production to support existing customers, but TI does not recommend using this part in a new design.

PREVIEW: Device has been announced but is not in production. Samples may or may not be available.

OBSOLETE: TI has discontinued the production of the device.

⁽²⁾ Eco Plan - May not be currently available - please check <http://www.ti.com/productcontent> for the latest availability information and additional product content details.

None: Not yet available Lead (Pb-Free).

Pb-Free (RoHS): TI's terms "Lead-Free" or "Pb-Free" mean semiconductor products that are compatible with the current RoHS requirements for all 6 substances, including the requirement that lead not exceed 0.1% by weight in homogeneous materials. Where designed to be soldered at high temperatures, TI Pb-Free products are suitable for use in specified lead-free processes.

Green (RoHS & no Sb/Br): TI defines "Green" to mean "Pb-Free" and in addition, uses package materials that do not contain halogens, including bromine (Br) or antimony (Sb) above 0.1% of total product weight.

⁽³⁾ MSL, Peak Temp. -- The Moisture Sensitivity Level rating according to the JEDEC industry standard classifications, and peak solder temperature.

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