

Quad Schottky Diode Array

FEATURES

- Matched, Four-Diode Monolithic Array
- High Peak Current
- Low-Cost MINIDIP Package
- Low-Forward Voltage
- Parallelable for Lower V_F or Higher I_F
- Fast Recovery Time
- Military Temperature Range Available

DESCRIPTION

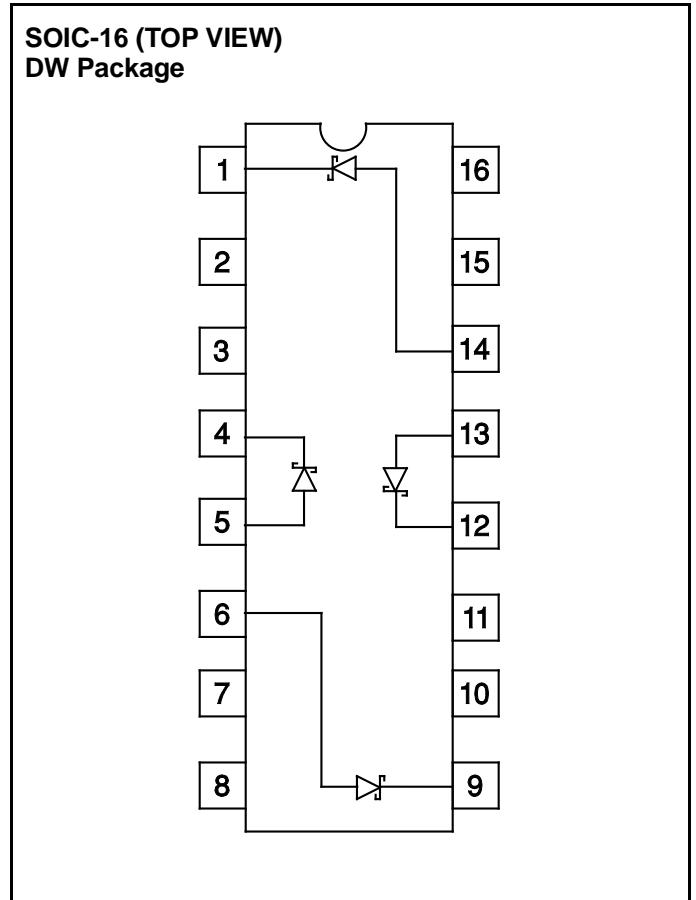
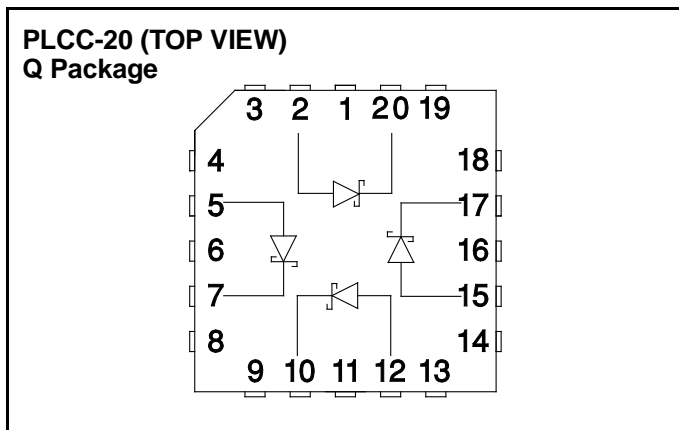
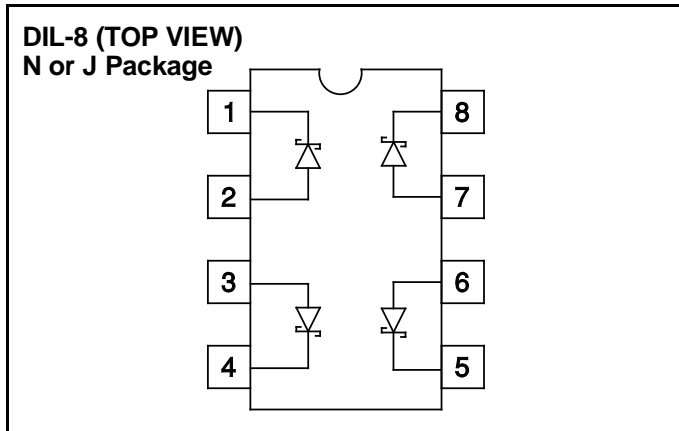
This four-diode array is designed for general purpose use as individual diodes or as a high-speed, high-current bridge. It is particularly useful on the outputs of high-speed power MOSFET drivers where Schottky diodes are needed to clamp any negative excursions caused by ringing on the driven line.

These diodes are also ideally suited for use as voltage clamps when driving inductive loads such as relays and solenoids, and to provide a path for current free-wheeling in motor drive applications.

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 UC1611 in ceramic is designed for -55°C to $+125^{\circ}\text{C}$ environments but with reduced peak current capability; while the UC3611 in plastic has higher current rating over a 0°C to $+70^{\circ}\text{C}$ ambient temperature range.

CONNECTION DIAGRAM



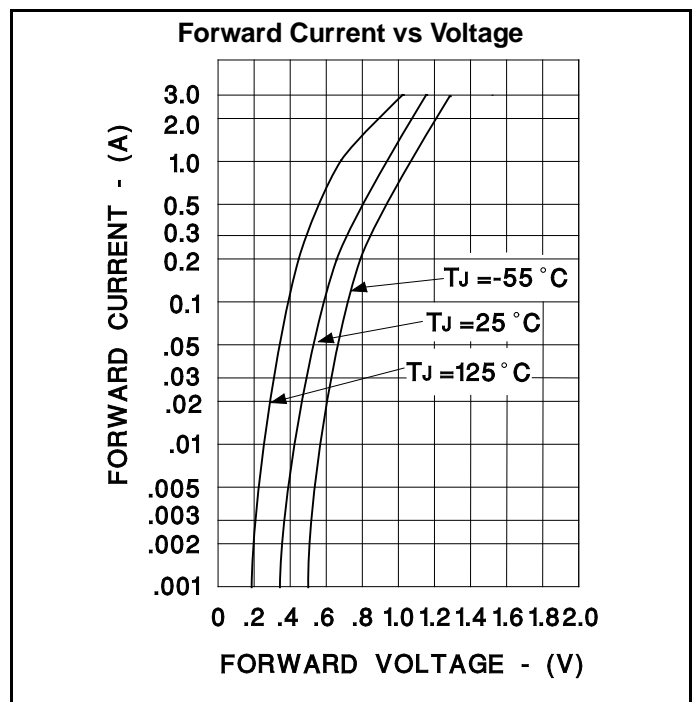
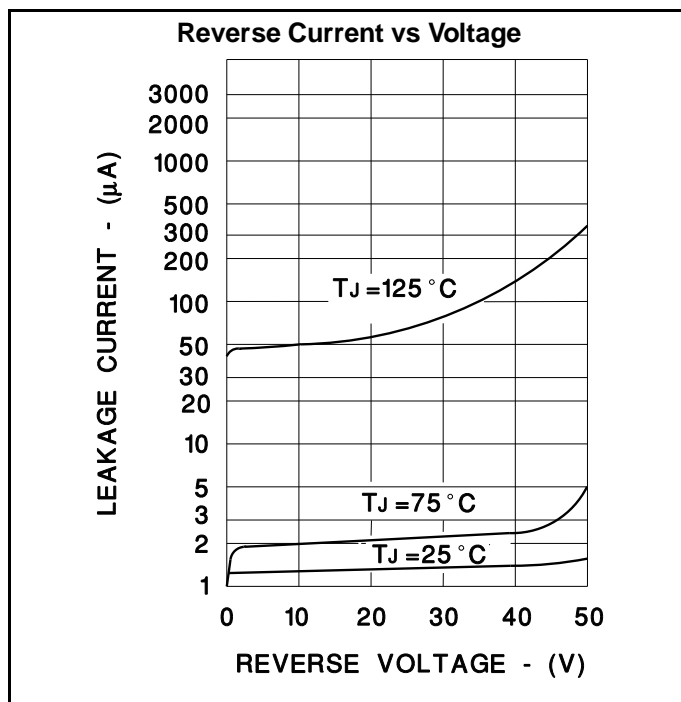
ABSOLUTE MAXIMUM RATINGS

Peak Inverse Voltage (per Diode)..... 50V
 Diode-to-Diode Voltage..... 80V
 Peak Forward Current
 UC1611..... 1A
 UC3611..... 3A
 Power Dissipation at TA = +70°C..... 1W
 Storage Temperature Range..... -65°C to +150°C
 Lead Temperature (Soldering, 10 Seconds)..... +300°C
 Note: Please consult Packaging Section of Databook for thermal limitations and considerations of package.

ELECTRICAL CHARACTERISTICS: All specifications apply to each individual diode. TJ = +25°C except as noted.
 TA = TJ.

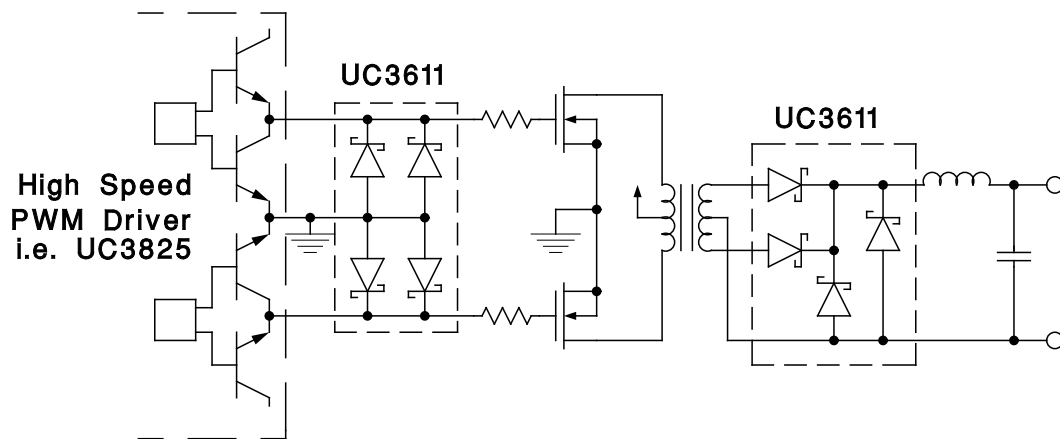
PARAMETER	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
Forward Voltage Drop	IF = 100mA	0.3	0.4	0.7	V
	IF = 1A		0.9	1.2	V
Leakage Current	VR = 40V		0.01	0.1	mA
	VR = 40V, TJ = +100°C		0.1	1.0	mA
Reverse Recovery	0.5A Forward to 0.5A Reverse		20		ns
Forward Recovery	1A Forward to 1.1V Recovery		40		ns
Junction Capacitance	VR = 5V		100		pF

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

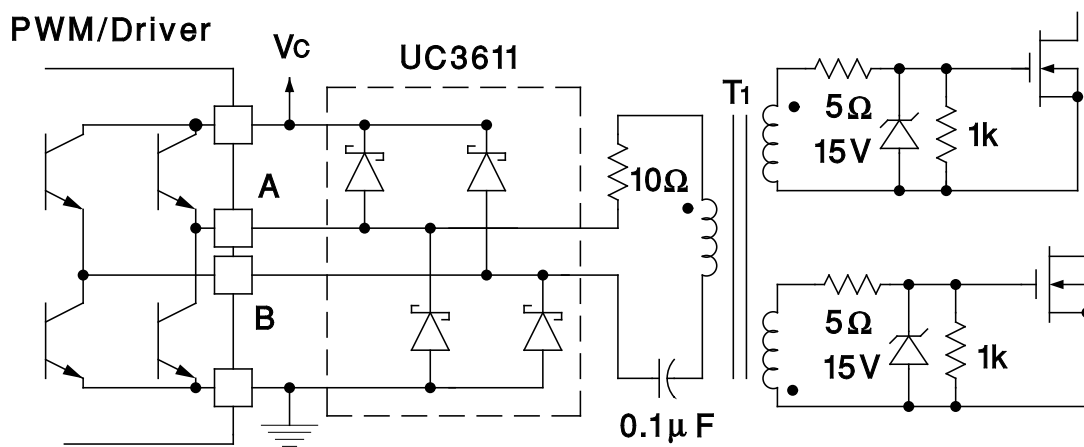


TYPICAL APPLICATIONS

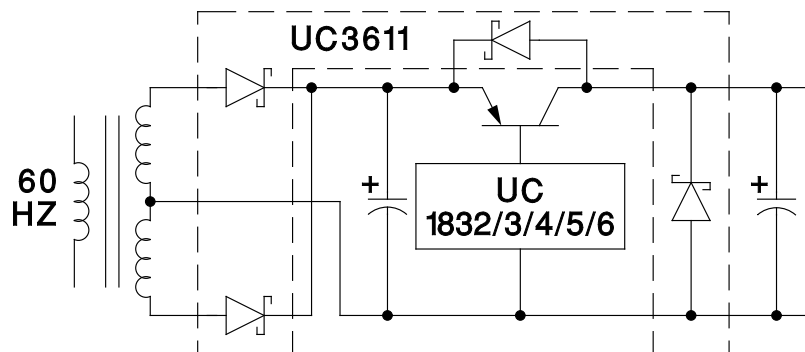
A. Clamp Diodes - PWMS and Drivers



B. Transformer Coupled Drive Circuits



C. Linear Regulations



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.

TEXAS INSTRUMENTS
THE WORLD LEADER IN DSP AND ANALOG

Advanced Search TI Home TI&ME Employment
Tech Support Comments Site Map TI Global

Power Management

Power Management Home > > [Power Management](#) > [Power Supply Support](#) > [Schottky Diode Arrays](#)



UC1611, QUAD SCHOTTKY DIODE ARRAY

Device Status: Active

- > [Description](#)
- > [Features](#)
- > [Datasheets](#)
- > [Pricing/Samples/Availability](#)
- > [Application Notes](#)

Parameter Name	UC1611
Output Current (A)	1
Vin (V)	0
Vin (max) (V)	50
Pin Count	8

Description



This four-diode array is designed for general purpose use as individual diodes or as a high-speed, high-current bridge. It is particularly useful on the outputs of high-speed power MOSFET drivers where Schottky diodes are needed to clamp any negative excursions caused by ringing on the driven line.

These diodes are also ideally suited for use as voltage clamps when driving inductive loads such as relays and solenoids, and to provide a path for current free-wheeling in motor drive applications.

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 UC1611 in ceramic is designed for -55°C to +125°C environments but with reduced peak current capability: while the UC3611 in plastic has higher current rating over a 0°C to +70°C ambient temperature range.

Features

- Matched Four Diode Monolithic Array

- MATCHED, FOUR-DIODE MONOLITHIC ARRAY
- High Peak Current
- Low-Cost MINIDIP Package
- Low-Forward Voltage
- Parallelable for Lower VF or Higher IF
- Fast Recovery Time
- Military Temperature Range Available

To view the following documents, [Acrobat Reader 3.x](#) is required.

To download a document to your hard drive, right-click on the link and choose 'Save'.

Datasheets

Full datasheet in Acrobat PDF: [slus338.pdf](#) (158 KB)

Pricing/Samples/Availability

<u>Orderable Device</u>	<u>Package</u>	<u>Pins</u>	<u>Temp (°C)</u>	<u>Status</u>	<u>Price/unit USD (100-999)</u>	<u>Pack Qty</u>	<u>DSCC Number</u>	<u>Availability / Samples</u>
5962-90538012A	<u>L</u>	20	-55 TO 125	ACTIVE	40.75	1		Check stock or order
5962-9053801PA	<u>J</u>	8	-55 TO 125	ACTIVE	20.86	1		Check stock or order
UC1611J	<u>J</u>	8	-55 TO 125	ACTIVE	16.40	1		Check stock or order
UC1611J883B	<u>J</u>	8	-55 TO 125	ACTIVE	20.86	1		Check stock or order
UC1611L	<u>L</u>	20	-55 TO 125	ACTIVE	54.33	1		Check stock or order
UC1611L883B	<u>L</u>	20	-55 TO 125	ACTIVE	40.75	1	5962-90538012A	Check stock or order

Application Reports

- [ELECTROSTATIC DISCHARGE APPLICATION NOTE](#) (SSYA008 - Updated: 05/05/1999)
- [THERMAL CHARACTERISTICS OF LINEAR AND LOGIC PACKAGES USING JEDEC PCB DESIGNS](#) (SZZA017A - Updated: 09/10/1999)

Table Data Updated on: 8/16/2000