

## 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.

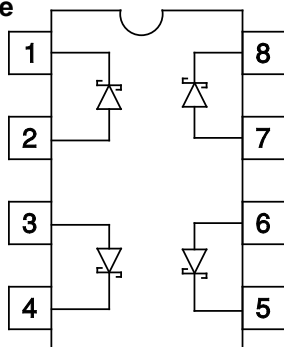
These diodes are also ideally suited for use as voltage clamps when driving inductive loads such as relays and solenoids, and to provide a path for current free-wheeling in motor drive applications.

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

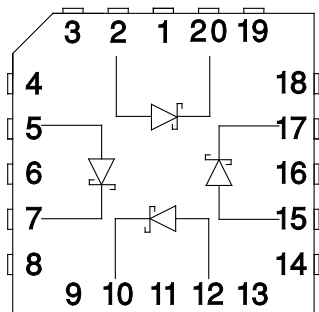
This single monolithic chip is fabricated in both hermetic CERDIP and copper-leaded plastic packages. The UC1611 in ceramic is designed for  $-55^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$  environments but with reduced peak current capability: while the UC3611 in plastic has higher current rating over a  $0^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$  ambient temperature range.

### CONNECTION DIAGRAM

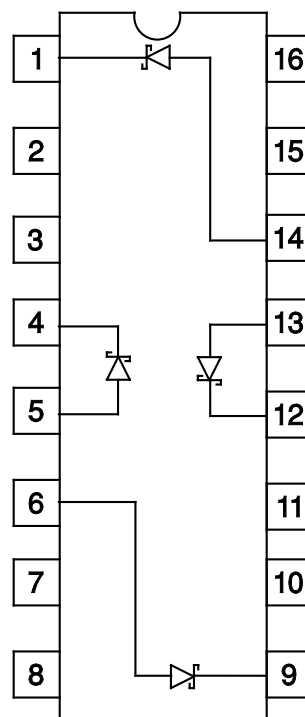
**DIL-8 (TOP VIEW)**  
**N or J Package**



**PLCC-20 (TOP VIEW)**  
**Q Package**



**SOIC-16 (TOP VIEW)**  
**DW Package**



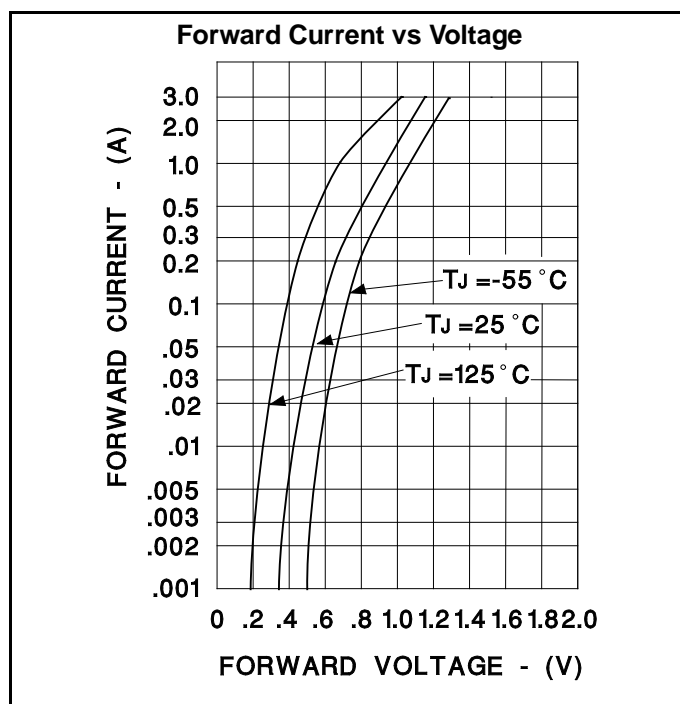
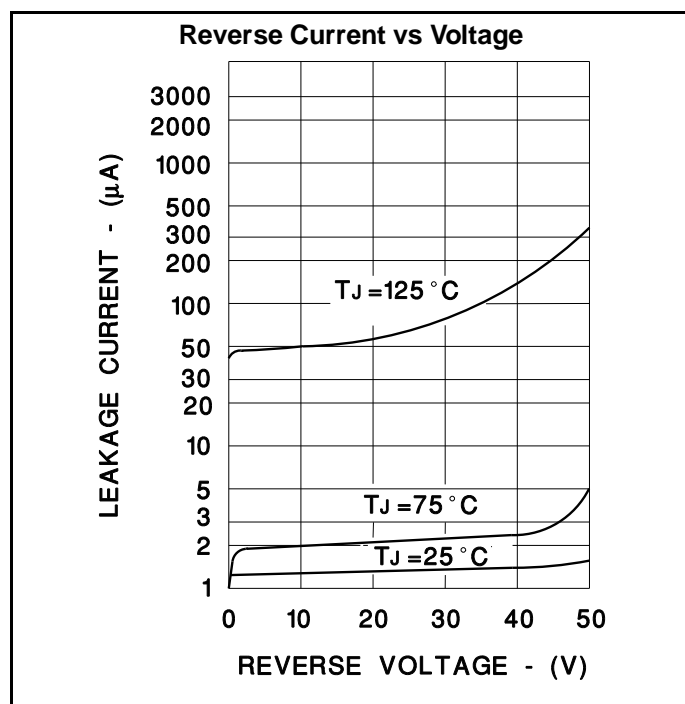
## ABSOLUTE MAXIMUM RATINGS

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

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

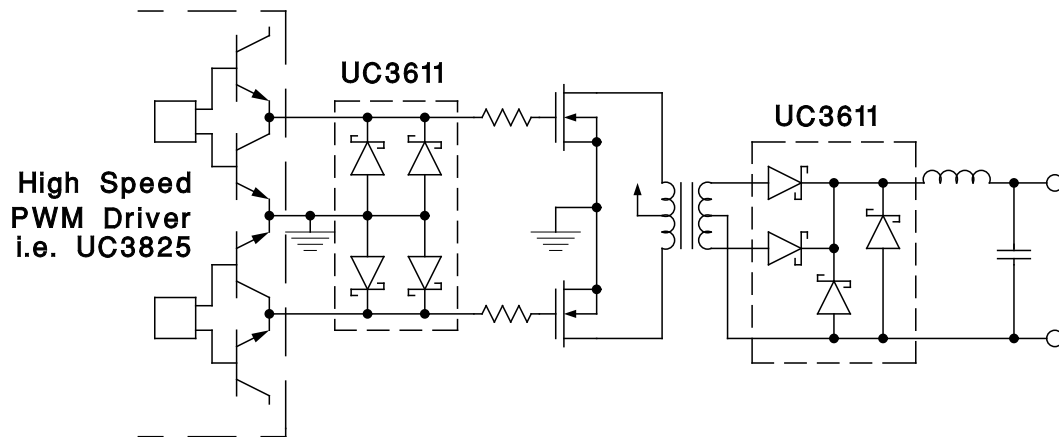
PARAMETER	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
Forward Voltage Drop	$I_F = 100\text{mA}$	0.3	0.4	0.7	V
	$I_F = 1\text{A}$		0.9	1.2	V
Leakage Current	$V_R = 40\text{V}$		0.01	0.1	mA
	$V_R = 40\text{V}, T_J = +100^\circ\text{C}$		0.1	1.0	mA
Reverse Recovery	0.5A Forward to 0.5A Reverse		20		ns
Forward Recovery	1A Forward to 1.1V Recovery		40		ns
Junction Capacitance	$V_R = 5\text{V}$		100		pF

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

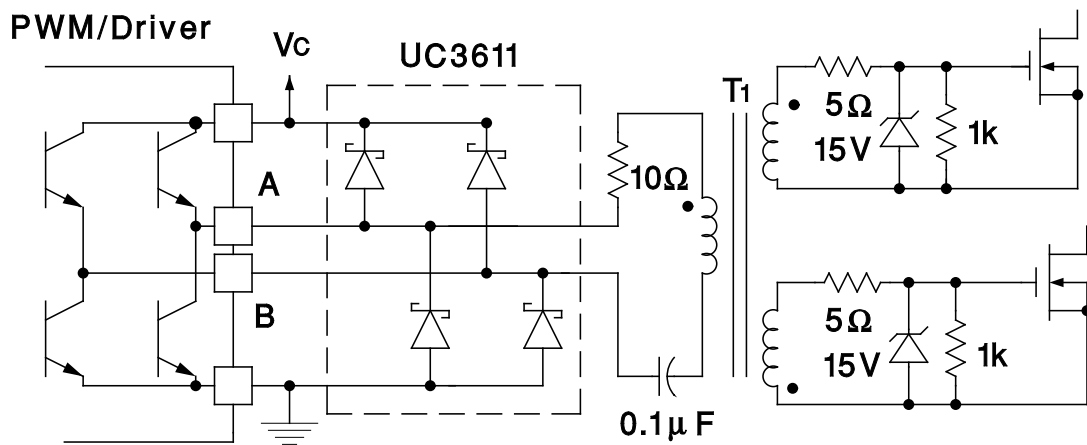


## TYPICAL APPLICATIONS

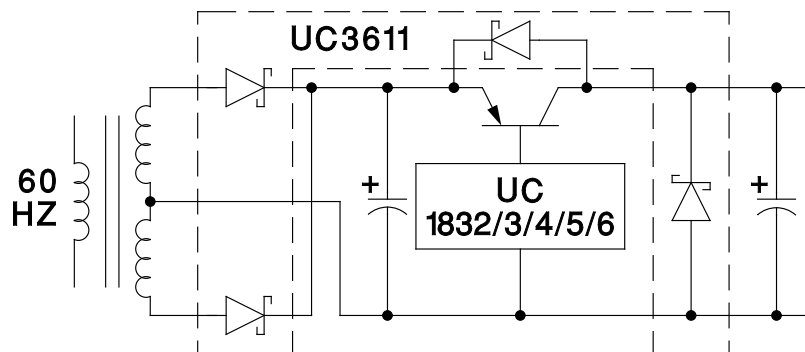
### A. Clamp Diodes - PWMS and Drivers



### B. Transformer Coupled Drive Circuits



### C. Linear Regulations



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