

# RECTIFIER ASSEMBLIES

## Doubler and Center Tap, 15 Amp, Standard and Fast Recovery, Magnum®

681, 689 SERIES

3

### FEATURES

- Current Ratings: to 15A
- Aluminum Heat Sink Case, Electrically Insulated
- Only Fused-in-Glass Diodes Used
- Controlled Avalanche Characteristics
- PIV: 100 to 600V
- Surge Ratings of 150A

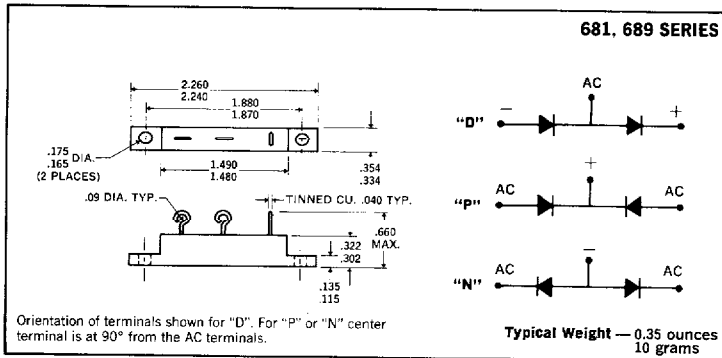
### DESCRIPTION

This series of MAGNUM® doublers and center tap rectifiers offers high current and high thermal conductivity needed in high current power supply applications. The MAGNUM® package is virtually indestructible and lends its use to high environmental stresses, as seen in aircraft, missile and satellite equipment.

### ABSOLUTE MAXIMUM RATINGS

Peak Inverse Voltages .....	100 to 600V
Maximum Average D.C. Output Current	
@ $T_C = +55^\circ\text{C}$ .....	15A
@ $T_C = +100^\circ\text{C}$ .....	10A
Non-Repetitive Sinusoidal Surge (8.3ms)	
@ $T_A = +100^\circ\text{C}$ .....	150A
Operating and Storage Temperature Range, $T_C$ .....	$-65^\circ\text{C}$ to $+150^\circ\text{C}$
Thermal Resistance Junction to Ambient .....	$20^\circ\text{C/W}$
Junction to Case .....	$6.0^\circ\text{C/W}$

### MECHANICAL SPECIFICATIONS



### MARKING

Alternating Current Input	A.C.
Cathode — Positive Output	+
Anode — Negative	-

Part number is printed on the body.

† Add suffix P, N, or D for terminal configuration P, N, or D. For example, for center tap configuration, P, order 681-IP.

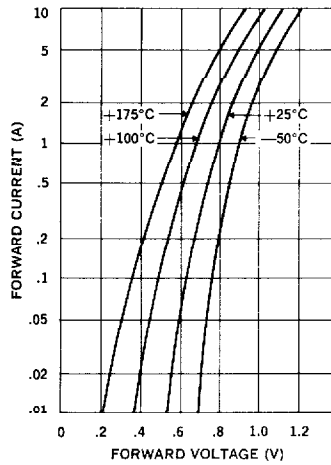
**Microsemi Corp.**  
**Watertown**  
The diode experts

Electrical Specifications (at 25°C unless noted)

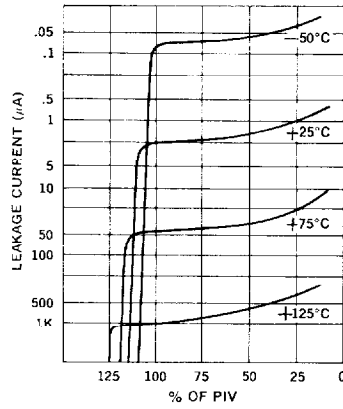
Type	PIV Per Leg	Maximum Forward Voltage Drop Per Leg	Maximum Reverse Recovery Time*	Maximum Leakage Current Per Leg @ PIV	
				T <sub>A</sub> = 25°C	T <sub>A</sub> = 100°C
				μA	μA
Standard Recovery	681-1	100	1.2V @ 10A	10	200
	681-2	200			
	681-3	300			
	681-4	400			
	681-5	500			
	681-6	600			
Fast Recovery	689-1	100	1.2V @ 10A	500	10
	689-2	200			
	689-3	300			
	689-4	400			
	689-5	500			
	689-6	600			

\*Measured in a reverse recovery circuit from 1A forward to 1A reverse current recovery to 0.5A.

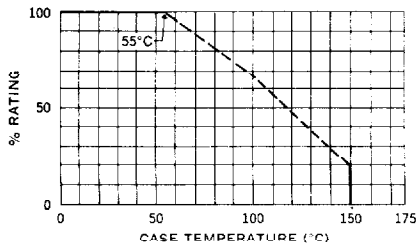
Typical Forward Voltage Per Leg vs. Forward Current



Typical Leakage Current vs. PIV



Current Derating Curve



Reverse-Recovery Circuit

