

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

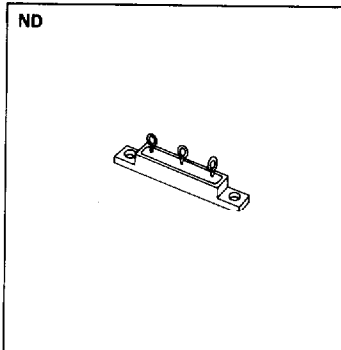
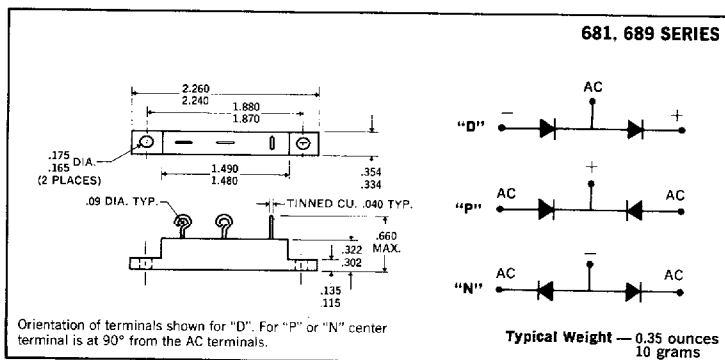
DESCRIPTION

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°C to $+150^\circ\text{C}$
Thermal Resistance	
Junction to Ambient	20°C/W
Junction to Case	6.0°C/W

MECHANICAL SPECIFICATIONS



MARKING

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

Part number is printed on the body.

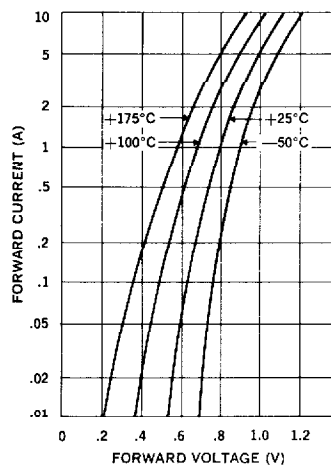
† Add suffix P, N, or D for terminal configuration P, N, or D.
For example, for center tap configuration, P, order 681-IP.

Microsemi Corp.
Watertown
The diode experts

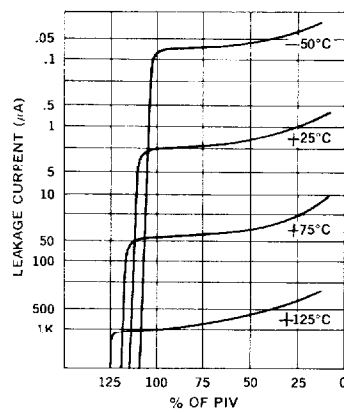
Electrical Specifications (at 25°C unless noted)

Type		PIV Per Leg	Maximum Forward Voltage Drop Per Leg	Maximum Reverse Recovery Time*	Maximum Leakage Current Per Leg @ PIV	
					$T_A = 25^\circ\text{C}$	$T_A = 100^\circ\text{C}$
					μA	μA
Standard Recovery	681-1	100	1.2V @ 10A	nS	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	200
	689-2	200				
	689-3	300				
	689-4	400				
	689-5	500				
	689-6	600				

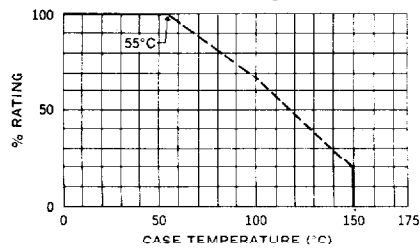
*Measured in a reverse recovery circuit from 1A forward to 1A reverse current recovery to 0.5A.

Typical Forward Voltage Per Leg
vs. Forward Current

Typical Leakage Current vs. PIV



Current Derating Curve



Reverse-Recovery Circuit

