RECTIFIER ASSEMBLIES

High Voltage Stacks, Standard and Fast Recovery

FEATURES

- PIV: from 10kV to 25kV
- Surge Ratings of 20A
- Recovery Time Available: to 500ns
- Current Ratings: to 0.6A
- Bonded Plate for Maximum Heat Transfer
- Controlled Avalanche Characteristics
- Only Fused-in Glass Diodes Used

DESCRIPTION

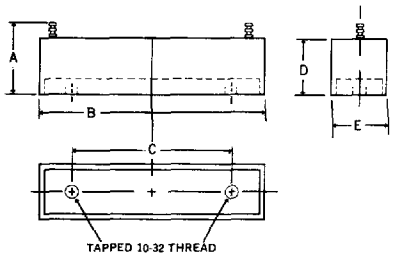
This series of high power stacks has a unique packaging design that provides characteristics not obtainable in conventional molded epoxy packages. This series, therefore, is ideally suited for high-voltage, high-power applications.

ABSOLUTE MAXIMUM RATINGS

Peak Inverse Voltage	10kV to 25kV
Maximum Average D.C. Output Current	See Electrical Specifications
Non-repetitive Sinusoidal Surge (8.3ms)	20A
Operating and Storage Temperature Range, T_C	−65°C to +150°C
Thermal Resistance Junction to Ambient	25°C/W
Junction to Case	10°C/W

MECHANICAL SPECIFICATIONS

688 SERIES

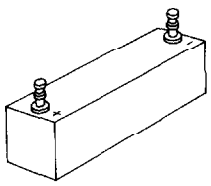


	ins.	mm.
A	1.140 MAX.	28.96 MAX.
B	2.985–3.015	75.82–76.58
C	2.110–2.140	53.59–54.36
D	.740–.770	18.80–19.56
E	.720–.760	18.29–19.05

Add suffix R to denote Fast Recovery version. For example, for recovery time, t_{rr} = 500ns; order 688-10R.

Typical Weight — 2.5 ounces 70 grams

BE



MARKING

Cathode — Positive Output Anode — Negative	+ —

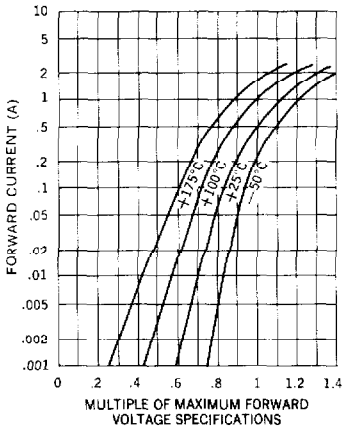
Part number is printed on the body.

Microsemi Corp.
Watertown
The diode experts

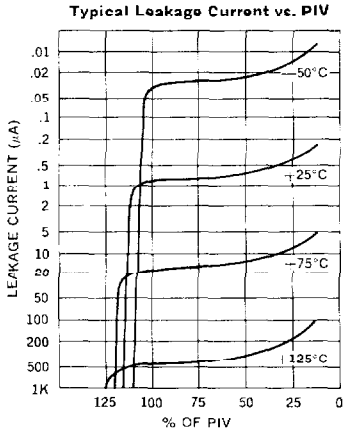
Electrical Specifications (at 25°C unless noted)						Maximum Ratings
Type		PIV	Maximum Forward Voltage Drop	Maximum Leakage Current @ PIV $T_A = 25°C$	Maximum Leakage Current @ PIV $T_A = 100°C$	Maximum Average D.C. Output Current $T_C = 100°C$
		kV		μA	μA	Amps
Standard And Fast Recovery*	688-10	10	17V @ 0.4A	2	100	0.60
	688-12	12	20V @ 0.4A			0.50
	688-15	15	25V @ 0.4A			0.40
	688-18	18	30V @ 0.4A			0.35
	688-20	20	34V @ 0.4A			0.30
	688-25	25	42V @ 0.4A			0.20

*Add suffix R to denote Fast Recovery version.

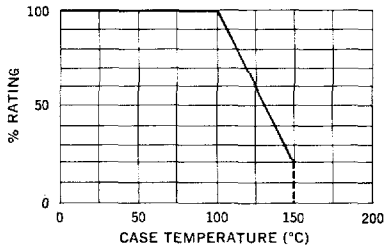
Typical Forward Voltage Per Leg vs. Forward Current



Typical Leakage Current vs. PIV



Current Derating Curve



680 PLEASANT STREET - WATERTOWN, MA 02172
TEL. (617) 926-0404 • FAX (617) 924-1235

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