

# RECTIFIER ASSEMBLIES

802, 803 SERIES

Single Phase Bridges, 20-35 Amp,  
High Efficiency ESP Series

## FEATURES

- Current Ratings: to 35A
- Recovery Time: 50ns
- Surge Ratings: to 250A
- PIVs: from 50 to 150V
- Only Fused-in-Glass Diodes Used
- Exceptional High Efficiency
- Aluminum Heat Sink Case, Electrically Insulated

## DESCRIPTION

This series of single phase bridges offer the highest efficiency possible for applications where nothing else will do. The series allow operation at full power at very high frequency.

## ABSOLUTE MAXIMUM RATINGS

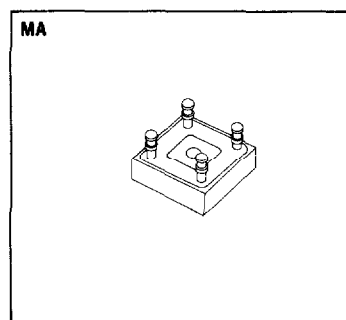
Peak Inverse Voltage	50 to 150V
Maximum Average D.C. Output Current	See Electrical Specifications
Non-Repetitive Sinusoidal Surge (8.3ms)	See Electrical Specifications
Operating and Storage Temperature Range, $T_C$	-65°C to +150°C
Thermal Resistance Junction to Ambient, 802 Series	20°C/W
803 Series	25°C/W
Junction to Case, 802 Series	2.0°C/W
803 Series	4.0°C/W

## MECHANICAL SPECIFICATIONS

**803 SERIES**

	ins.	mm.
A	.735-.755	18.67-19.18
B	.570 MAX.	14.48 MAX.
C	.250 MAX.	5.74-6.25
D	.735-.755	18.67-19.18
E	.139-.149 DIA.	3.30-3.81

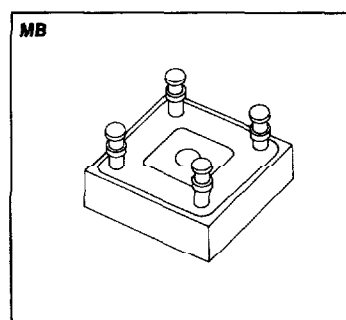
Typical Weight — 0.35 ounces  
10 grams



**802 SERIES**

	ins.	mm.
A	.056-.066	1.42-1.68
B	.052-.072	1.32-1.83
C	1.115-1.135	28.32-28.83
D	.552-.572	14.02-14.53
E	.552-.572	14.02-14.53
F	.180-.200 DIA.	4.57-5.08 DIA.
G	.490-.510	12.45-12.96
H	.750 MAX.	19.05 MAX.
J	.302-.322	7.67-8.18
K	1.115-1.135	28.32-28.83

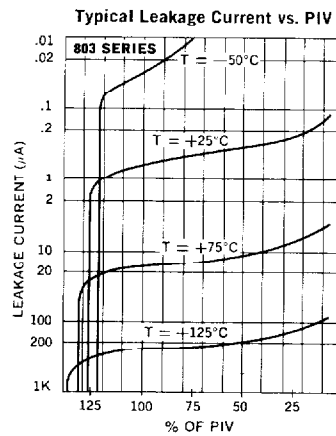
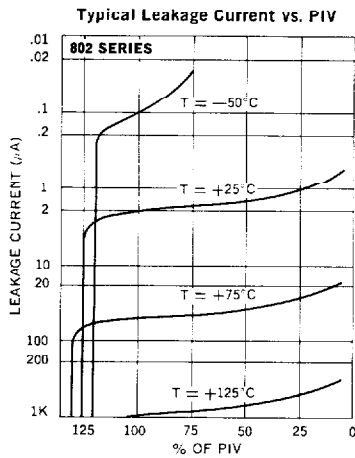
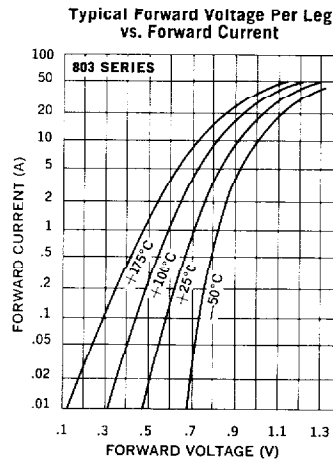
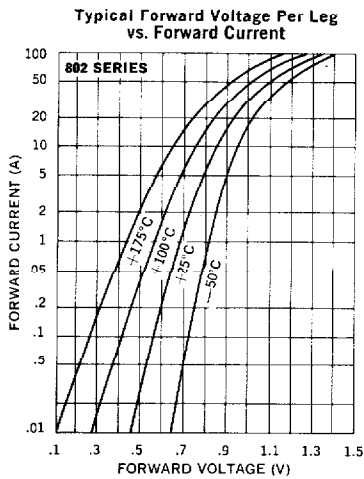
Typical Weight — 0.70 ounces  
20 grams



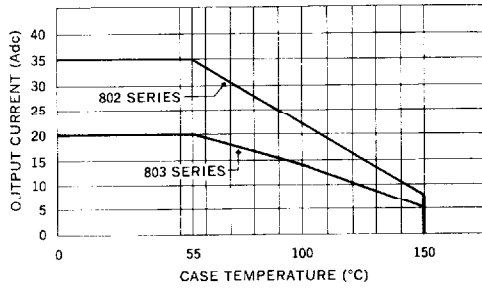
**Microsemi Corp.**  
**Watertown**  
*The diode experts*

Electrical Specifications (at 25°C unless noted)						Maximum Ratings			
Type	PIV Per Leg Volts	Maximum Forward Voltage Drop Per Leg	Maximum Reverse Leakage Current Per Leg @ PIV		Maximum Reverse Recovery Time*	Maximum Average D.C. Output Current		Non-Repetitive Sinusoidal Surge (8.3ms) T <sub>A</sub> = 100°C	
			T <sub>A</sub> = 25°C μA	T <sub>A</sub> = 100°C μA		T <sub>C</sub> = 55°C Amps	T <sub>C</sub> = 100°C Amps		
ESP Recovery 802-1 802-2 802-3 802-4	50	.95V @ 10A	20	1000	50	35	22.5	250	
	100								
	125								
	150								
ESP Recovery 803-1 803-2 803-3 803-4	50	.95V @ 6A	10	300	50	20	16	125	
	100								
	125								
	150								

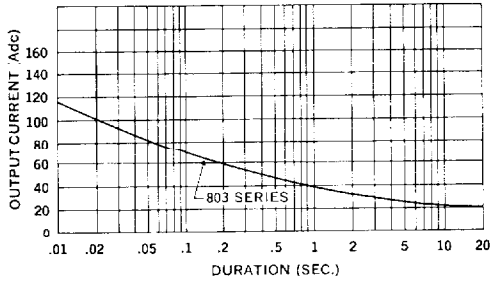
\*Measured in a reverse recovery circuit switching from 1A forward to 1A reverse current recovering to 0.5A.



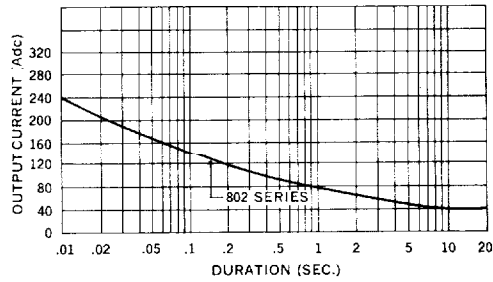
**Current Derating Curve**



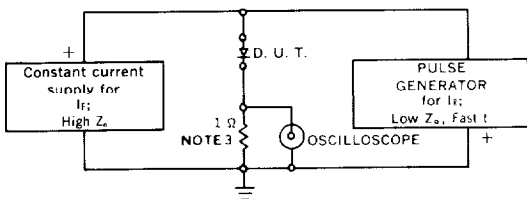
**Forward Surge Current vs. Duration**



**Forward Surge Current vs. Duration**

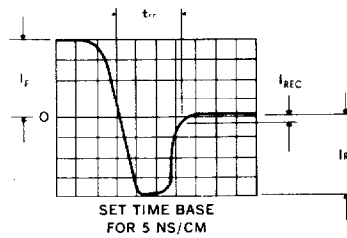


**Reverse-Recovery Circuit**



- NOTES:**
1. Oscilloscope: Rise time  $\leq 3$ ns; input impedance = 50 $\Omega$ .
  2. Pulse Generator: Rise time  $\leq 8$ ns; source impedance 10 $\Omega$ .
  3. Current viewing resistor, non-inductive, coaxial recommended.

**Characteristic Waveform**





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