

# RECTIFIER ASSEMBLIES

## Single Phase Bridges, 25 Amp, Military Approved

JAN SPA25  
JAN SPB25  
JAN SPC25  
JAN SPD25

### FEATURES

- Qualified to MIL-S-19500/446
- Current Rating: to 25A
- PIV: from 100 to 600V
- Surge Ratings of 150A
- Only Fused-in-Glass Diodes Used
- Controlled Avalanche Characteristics
- Aluminum Heat Sink Case, Electrically Insulated

### DESCRIPTION

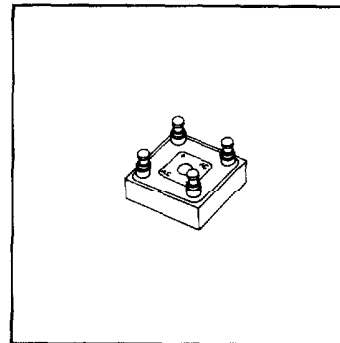
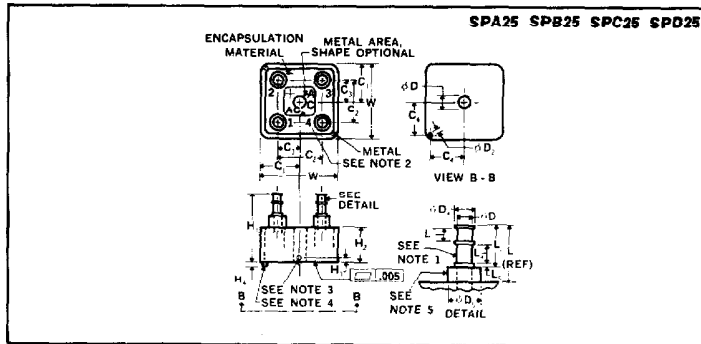
This series of military high-current single-phase bridges offer the utmost in reliability as required in military system designs. This series is assembled with diodes which have been subjected to 100% screening tests.

### ABSOLUTE MAXIMUM RATINGS

Peak Inverse Voltage .....	100 to 600V
Maximum Average D.C. Output Current	
@ $T_c = 55^\circ\text{C}$ .....	25A
@ $T_c = 100^\circ\text{C}$ .....	15A
Non-Repetitive Sinusoidal Surge (8.3ms)	
@ $T_c = 55^\circ\text{C}$ .....	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 .....	$2.5^\circ\text{C/W}$

Ltr	Dimensions			
	INCHES		MILLIMETERS	
	MIN.	MAX.	MIN.	MAX.
C <sub>1</sub>	.552	.572	14.02	14.53
C <sub>2</sub>	.624	.760	15.85	19.30
C <sub>3</sub>	.312	.380	7.92	9.65
C <sub>4</sub>	.495	.512	12.57	13.00
$\phi D_1$	.189	.195	4.80	4.95
$\phi D_2$	.057	.067	1.45	1.70
$\phi D_3$	.108	.118	2.74	3.00
$\phi D_4$	.141	.151	3.58	3.84
$\phi D_5$	.225	.235	5.72	5.97
H <sub>1</sub>	.669	1.060	17.53	26.92
H <sub>2</sub>	.300	.500	7.62	12.70
H <sub>3</sub>	.040	.060	1.02	1.52
H <sub>4</sub>	.042	.062	1.07	1.57
L <sub>1</sub>	.370	.560	9.40	14.22
L <sub>2</sub>	.307	.365	7.80	9.27
L <sub>3</sub>	.089	.099	2.26	2.49
L <sub>4</sub>	.132	.142	3.35	3.61
L <sub>5</sub>	.026	.036	.66	.91
W	1.104	1.144	28.04	29.06

### MECHANICAL SPECIFICATIONS



### NOTES:

1. Terminals shall be hot tin dipped or silver plated.
2. Polarity shall be marked on terminal side of device.
3. Point at which  $T_c$  is read (must be in metal part of case).
4. Locating pin shall be adjacent to positive terminal.
5. Insulating sleeve shall be alumina ( $\text{Al}_2\text{O}_3$ ) or equivalent.

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

Electrical Specifications (at 25°C unless noted)

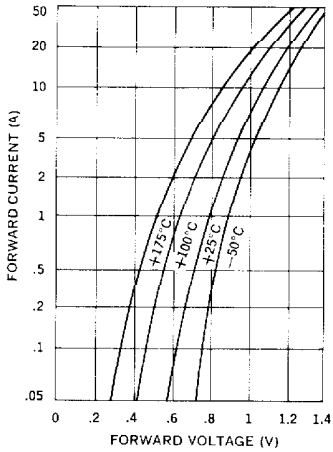
Type	PIV Per Leg	Peak Forward Voltage Drop*		Maximum Reverse Recovery Time†	Maximum Leakage Current Per Leg @ PIV	
		Minimum	Maximum		T <sub>c</sub> = 25°C	T <sub>c</sub> = 100°C
	Volts			μS	μA	μA
JAN SPA25	100	0.9V	1.4V	2	2	150
JAN SPB25	200					
JAN SPC25	400					
JAN SPD25	600					

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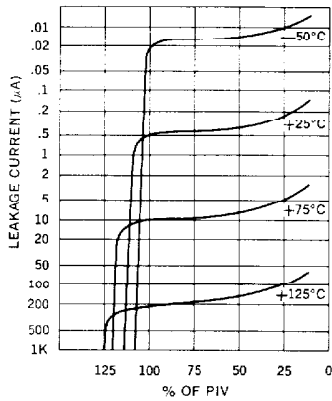
\*Peak forward voltage drop is measured at a pulse width of 8.3ms.

†Measured in a reverse recovery circuit switching from 0.5A forward to 1.0A reverse current recovery to 0.5A.

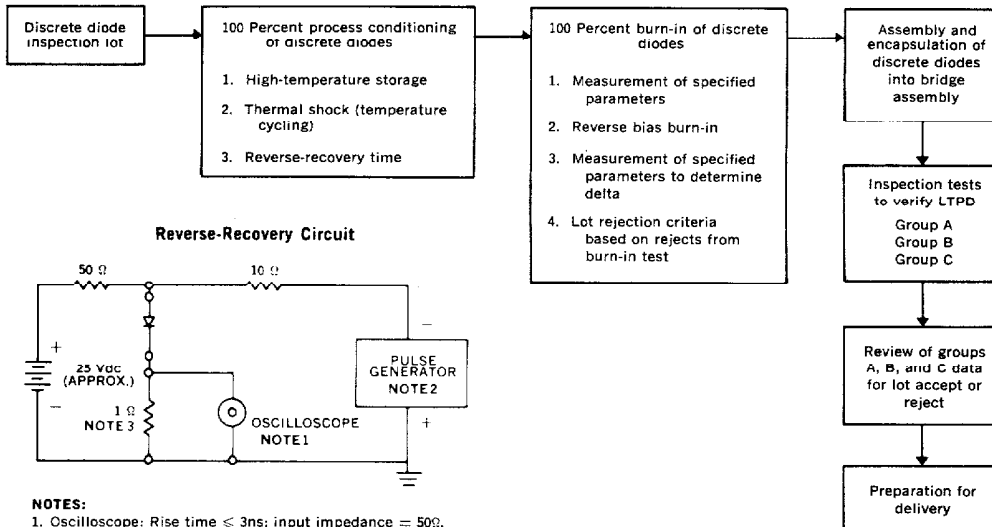
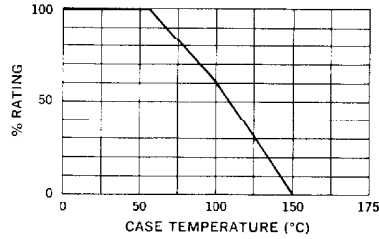
Typical Forward Voltage Per Leg vs. Forward Current



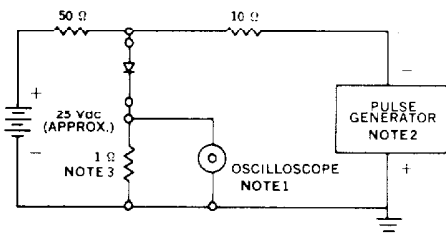
Typical Leakage Current vs. PIV



Current Derating Curve



Reverse-Recovery Circuit



- NOTES:
- Oscilloscope: Rise time ≤ 3ns; input impedance = 50Ω.
  - Pulse Generator: Rise time ≤ 8ns; source impedance 10Ω.
  - Current viewing resistor, non-inductive, coaxial recommended.