

# AB40 - AB380/C 1500RG

# AVALANCHE GLASS PASSIVATED BRIDGE RECTIFIERS

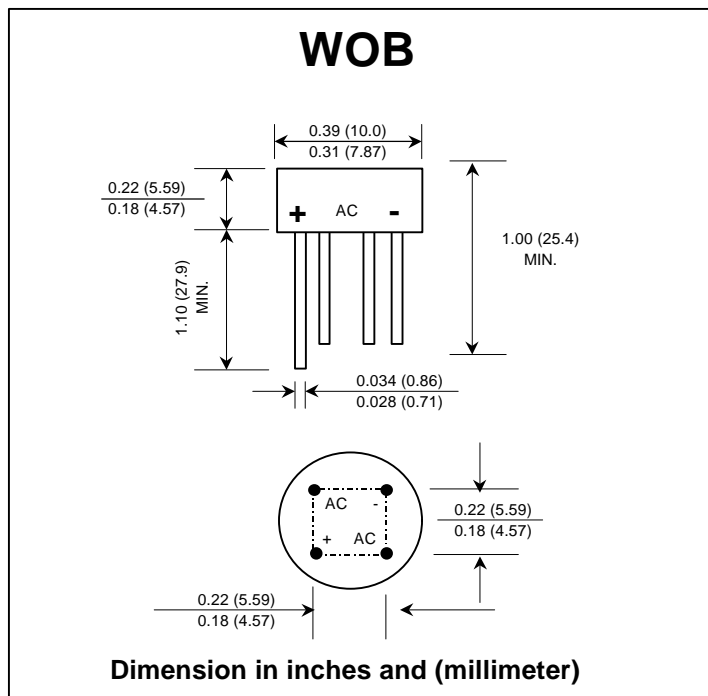
**PRV : 100 - 900 Volts**  
**Io : 1.5 Amperes**

### FEATURES :

- \* Glass passivated chip
- \* High case dielectric strength
- \* High surge current capability
- \* High reliability
- \* Low reverse current
- \* Low forward voltage drop
- \* Ideal for printed circuit board
- \* **Pb / RoHS Free**

### MECHANICAL DATA :

- \* Case : Reliable low cost construction utilizing molded plastic technique
- \* Epoxy : UL94V-O rate flame retardant
- \* Terminals : Plated leads solderable per MIL-STD-202, Method 208 guaranteed
- \* Polarity : Polarity symbols marked on case
- \* Mounting position : Any
- \* Weight : 1.29 grams



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified.  
Single phase, half wave, 60 Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

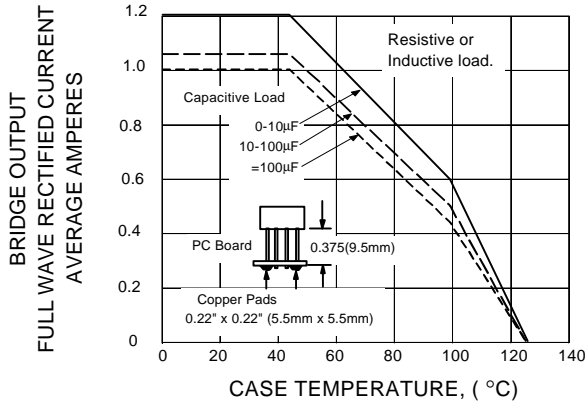
RATING	SYMBOL	AB40-C 1500RG	AB80-C 1500RG	AB125-C 1500RG	AB250-C 1500RG	AB380-C 1500RG	UNIT
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	100	200	300	600	900	V
Maximum RMS Input Voltage R+C -Load	$V_{RMS}$	40	80	125	250	380	V
Maximum DC Blocking Voltage	$V_{DC}$	100	200	300	600	900	V
Minimum Avalanche Breakdown Voltage at 100 $\mu$ A	$V_{BO(min.)}$	150	250	350	700	1000	V
Maximum Avalanche Breakdown Voltage at 100 $\mu$ A	$V_{BO(max.)}$	600	700	800	1150	1450	V
Maximum Average Forward Current For Free Air Operation at $T_c = 45$ °C R+L -Load C -Load	$I_{F(AV)}$			1.6 1.5			A
Peak Forward Surge Current Single half sine wave on rated load (JEDEC Method) at $T_J = 125$ °C	$I_{FSM}$			50			A
Rating for fusing at $T_J = 125$ °C ( $t < 100$ ms. )	$I^2t$			10			A <sup>2</sup> S
Maximum Series Resistor C-Load $V_{RMS} = \pm 10\%$	$R_t$	1.0	2.0	4.0	8.0	12.0	$\Omega$
Maximum load Capacitance + 50% -10%	$C_L$	5000	2500	1000	500	200	$\mu$ F
Maximum Forward Voltage per Diode at $I_F = 1.5$ Amps.	$V_F$			1.0			V
Maximum Reverse Current at Rated Repetitive Peak Voltage per Diode $T_a = 25$ °C	$I_R$			10			$\mu$ A
Typical Thermal Resistance (Note 1)	$R_{\theta JA}$			36			°C/W
Operating Junction Temperature Range	$T_J$			- 50 to + 125			°C
Storage Temperature Range	$T_{STG}$			- 50 to + 150			°C

### Notes :

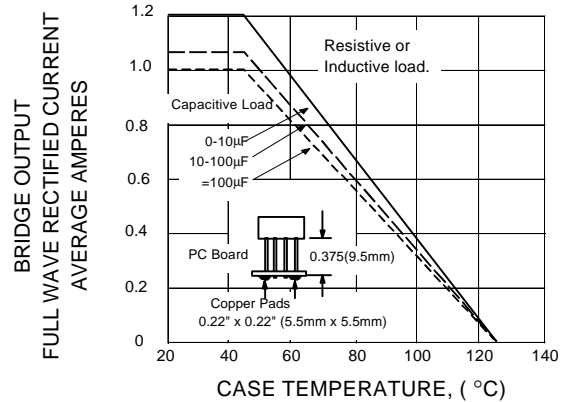
1) Thermal resistance from Junction to Ambient at 0.375" (9.5 mm) lead length P.C. Board with, 0.22" x 0.22" (5.5 x 5.5 mm) copper Pads.

## RATING AND CHARACTERISTIC CURVES ( AB40 - AB380/C1000G )

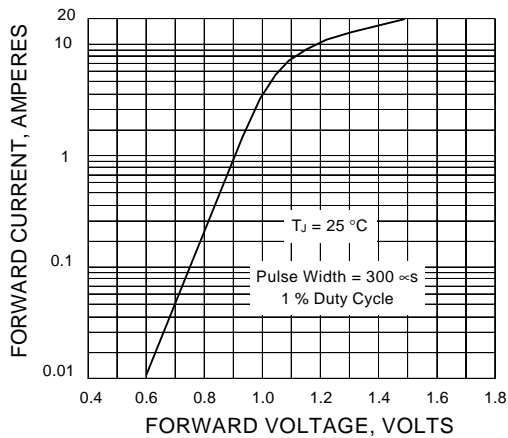
**FIG.1 - DERATING CURVE  
FOR OUTPUT RECTIFIED CURRENT  
AB40 C1000G - AB125 C1000G**



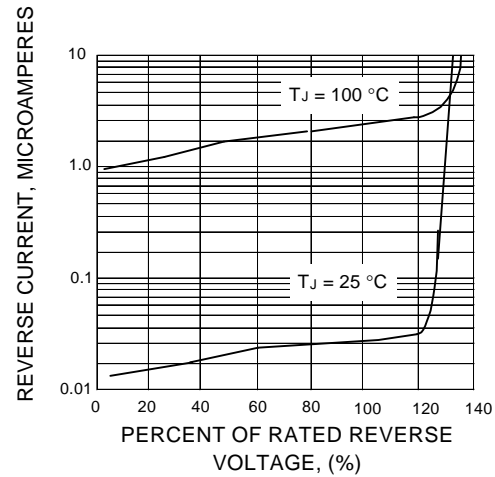
**FIG.2 - DERATING CURVE  
FOR OUTPUT RECTIFIED CURRENT  
AB250 C1000G - AB380 C1000G**



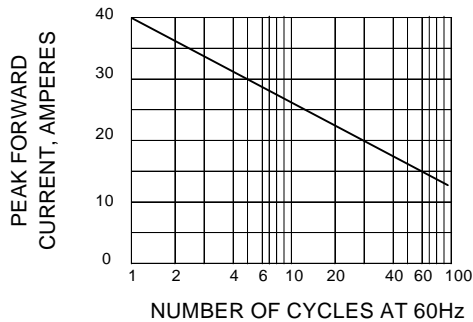
**FIG.3 - TYPICAL FORWARD CHARACTERISTICS**



**FIG.4 - TYPICAL REVERSE CHARACTERISTICS**



**FIG.5 - MAXIMUM NON-REPETITIVE  
PEAK FORWARD CURRENT**



**FIG.6 - TYPICAL JUNCTION CAPACITANCE  
PER BRIDGE ELEMENT**

