

# ABR5000W - ABR5010W

**PRV : 50 - 1000 Volts**

**Io : 50 Amperes**

## FEATURES :

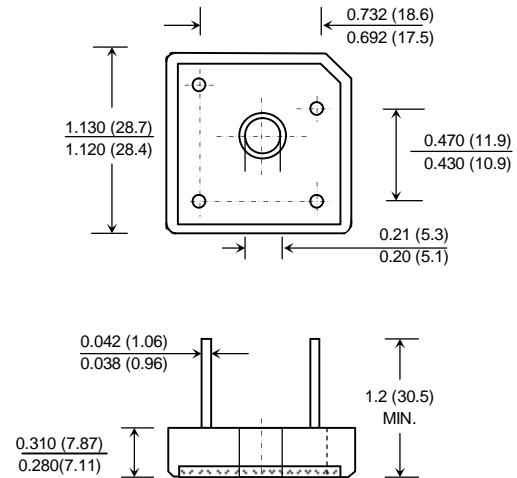
- \* High case dielectric strength
- \* High surge current capability
- \* High reliability
- \* Low reverse current
- \* Low forward voltage drop
- \* Ideal for printed circuit board
- \* **Pb / RoHS Free**

## MECHANICAL DATA :

- \* Case : Molded plastic with heatsink integrally mounted in the bridge encapsulation
- \* Epoxy : UL94V-O rate flame retardant
- \* Terminals : Plated lead solderable per MIL-STD-202, Method 208 guaranteed
- \* Polarity : Polarity symbols marked on case
- \* Mounting position : Bolt down on heat-sink with silicone thermal compound between bridge and mounting surface for maximum heat transfer efficiency
- \* Weight : 15.95 grams

# AVALANCHE BRIDGE RECTIFIERS

## BR50W



**Dimensions in inches and ( millimeters )**

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

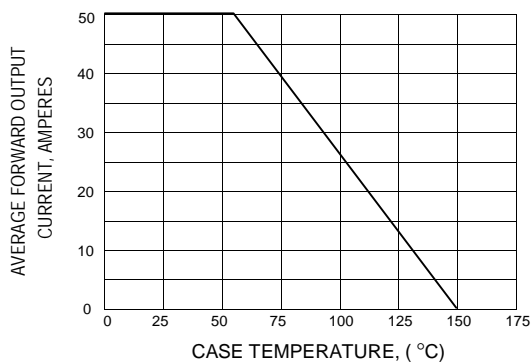
Rating at 25 °C ambient temperature unless otherwise specified.  
Single phase, half wave, 60 Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

RATING	SYMBOL	ABR 5000W	ABR 5001W	ABR 5002W	ABR 5004W	ABR 5006W	ABR 5008W	ABR 5010W	UNIT
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1000	V
Minimum Avalanche Breakdown Voltage at 100 $\mu$ A	$V_{BO(min)}$	100	150	250	450	700	900	1100	V
Maximum Avalanche Breakdown Voltage at 100 $\mu$ A	$V_{BO(max)}$	550	600	700	900	1150	1350	1550	V
Maximum Average Forward Current $T_c = 50^\circ\text{C}$	$I_{F(AV)}$	50							A
Peak Forward Surge Current Single half sine wave Superimposed on rated load (JEDEC Method)	$I_{FSM}$	400							A
Rating for fusing at ( $t < 8.3$ ms. )	$I^2t$	660							$\text{A}^2\text{S}$
Maximum Forward Voltage per Diode at $I_F = 25$ A	$V_F$	1.1							V
Maximum DC Reverse Current $T_a = 25^\circ\text{C}$ at Rated DC Blocking Voltage $T_a = 100^\circ\text{C}$	$I_R$	10							$\mu\text{A}$
	$I_{R(H)}$	200							$\mu\text{A}$
Typical Thermal Resistance (Note 1)	$R_{\theta JC}$	1							$^\circ\text{C/W}$
Operating Junction Temperature Range	$T_J$	- 50 to + 150							$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	- 50 to + 150							$^\circ\text{C}$

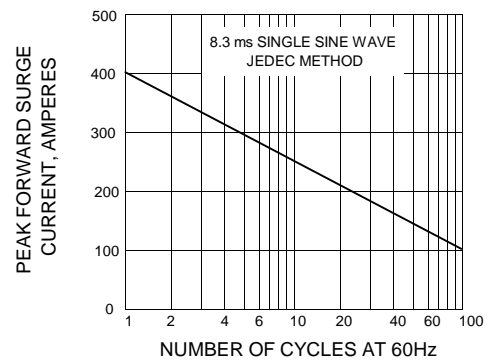
**Note :** 1 ) Thermal resistance from junction to case with units mounted on heatsink.

**RATING AND CHARACTERISTIC CURVES ( ABR5000W - ABR5010W)**

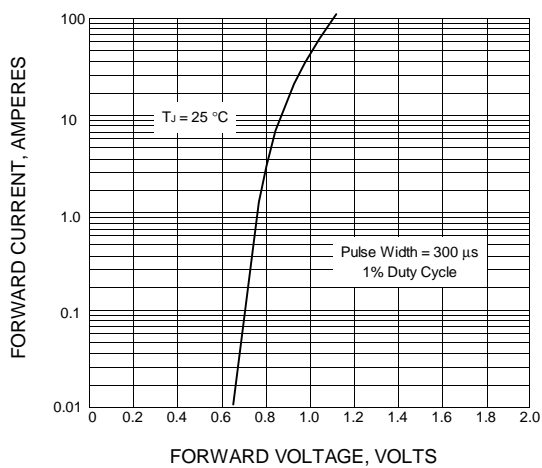
**FIG.1 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT**



**FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



**FIG.3 - TYPICAL FORWARD CHARACTERISTICS PER DIODE**



**FIG.4 - TYPICAL REVERSE CHARACTERISTICS**

