

# ABR1500W - ABR1510W

**PRV : 50 - 1000 Volts**

**Io : 15 Amperes**

**FEATURES :**

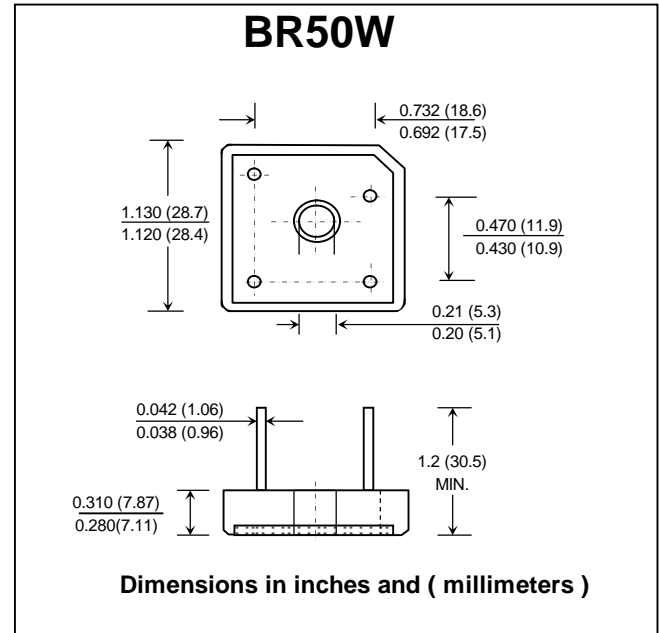
- \* High case dielectric strength
- \* High surge current capability
- \* High reliability
- \* Low reverse current
- \* Low forward voltage drop
- \* **Pb / RoHS Free**

**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



**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

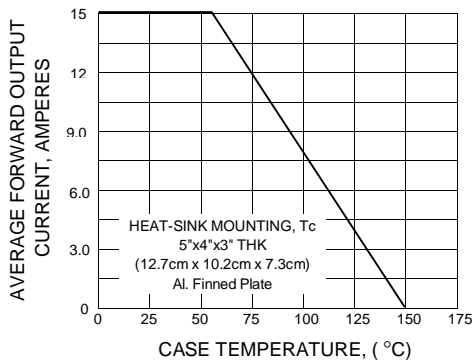
Rating at 25 °C ambient temperature unless otherwise specified.  
Single phase, half wave, 60 Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

| RATING                                                                                            | SYMBOL          | ABR 1500W     | ABR 1501W | ABR 1502W | ABR 1504W | ABR 1506W | ABR 1508W | ABR 1510W | 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 $T_c = 50^\circ C$                                                | $I_{F(AV)}$     | 15            |           |           |           |           |           |           | A                |
| Peak Forward Surge Current Single half sine wave Superimposed on rated load (JEDEC Method)        | $I_{FSM}$       | 300           |           |           |           |           |           |           | A                |
| Rating for fusing at ( t < 8.3 ms. )                                                              | $I^2 t$         | 375           |           |           |           |           |           |           | A <sup>2</sup> S |
| Maximum Forward Voltage per Diode at $I_F = 12.5 A$                                               | $V_F$           | 1.1           |           |           |           |           |           |           | V                |
| Maximum DC Reverse Current $T_a = 25^\circ C$<br>at Rated DC Blocking Voltage $T_a = 100^\circ C$ | $I_R$           | 10            |           |           |           |           |           |           | $\mu A$          |
|                                                                                                   | $I_{R(H)}$      | 200           |           |           |           |           |           |           | $\mu A$          |
| Typical Thermal Resistance (Note 1)                                                               | $R_{\theta JC}$ | 1.9           |           |           |           |           |           |           | $^\circ C/W$     |
| Operating Junction Temperature Range                                                              | $T_J$           | - 50 to + 150 |           |           |           |           |           |           | $^\circ C$       |
| Storage Temperature Range                                                                         | $T_{STG}$       | - 50 to + 150 |           |           |           |           |           |           | $^\circ C$       |

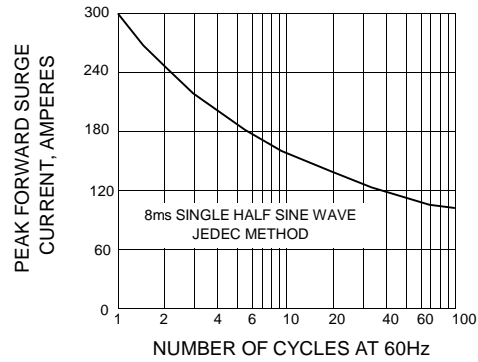
**Note :** 1) Thermal resistance from Junction to case with units mounted on a 5" x 4" x 3" (12.7cm x 10.2cm x 7.3 cm) Al.-Finned plate.

## RATING AND CHARACTERISTIC CURVES ( ABR1500W - ABR1510W )

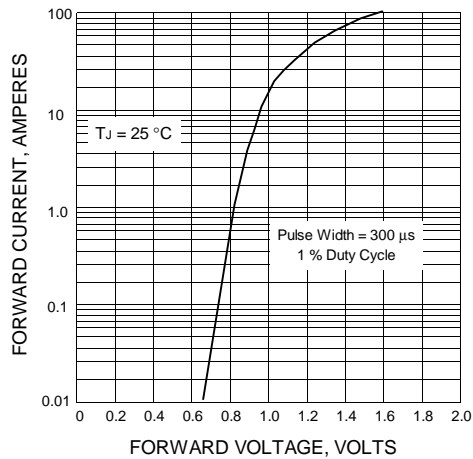
**FIG.1 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT**



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



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



**FIG.4 - TYPICAL REVERSE CHARACTERISTICS**

