

# ABR1000 - ABR1010

# AVALANCHE BRIDGE RECTIFIERS

**PRV : 50 - 1000 Volts**

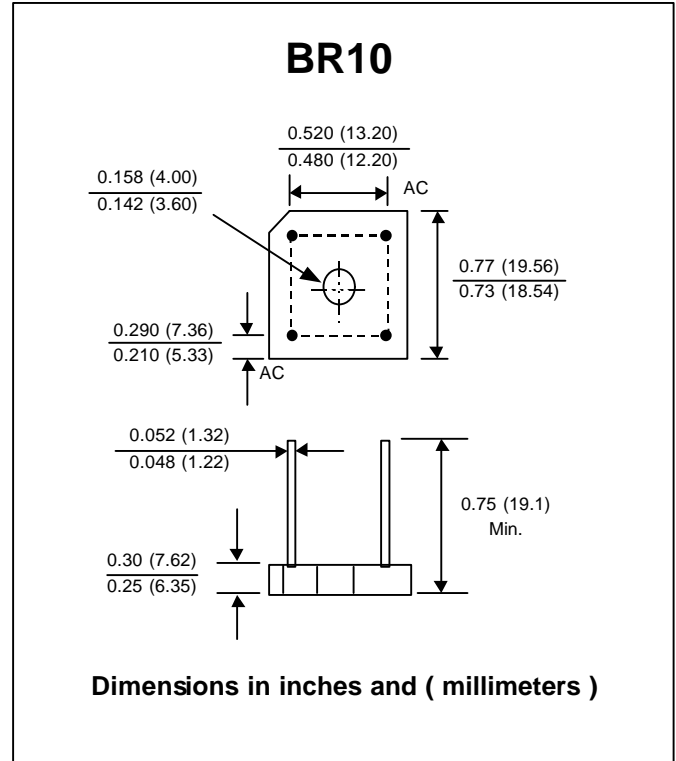
**I<sub>o</sub> : 10 Amperes**

### FEATURES :

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

### MECHANICAL DATA :

- \* Case : Reliable low cost construction utilizing molded plastic technique
- \* Epoxy : UL94V-O rate flame retardant
- \* Lead : Axial lead solderable per MIL - STD 202 , Method 208 guaranteed
- \* Polarity : Polarity symbols marked on case
- \* Mounting position : Any
- \* Weight : 6.1 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%.

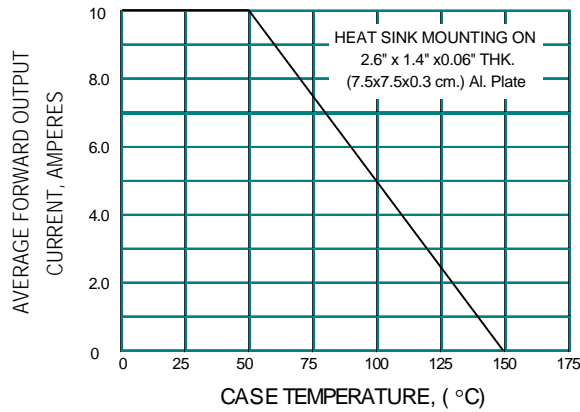
| RATING   | SYMBOL                | ABR 1000      | ABR 1001 | ABR 1002 | ABR 1004 | ABR 1006 | ABR 1008 | ABR 1010 | UNITS            |
|--|-----------------------|---------------|----------|----------|----------|----------|----------|----------|------------------|
| Maximum Recurrent Peak Reverse Voltage   | V <sub>RRM</sub>      | 50            | 100      | 200      | 400      | 600      | 800      | 1000     | Volts            |
| Maximum RMS Voltage  | V <sub>RMS</sub>      | 35            | 70       | 140      | 280      | 420      | 560      | 700      | Volts            |
| Maximum DC Blocking Voltage  | V <sub>DC</sub>       | 50            | 100      | 200      | 400      | 600      | 800      | 1000     | Volts            |
| Minimum Avalanche Breakdown Voltage at 100 μA  | V <sub>BO(min.)</sub> | 100           | 150      | 250      | 450      | 700      | 900      | 1100     | Volts            |
| Maximum Avalanche Breakdown Voltage at 100 μA  | V <sub>BO(max.)</sub> | 550           | 600      | 700      | 900      | 1150     | 1350     | 1550     | Volts            |
| Maximum Average Forward Current T <sub>c</sub> = 50°C                                      | I <sub>F(AV)</sub>    | 10.0          |          |          |          |          |          |          | Amp.             |
| Peak Forward Surge Current Single half sine wave Superimposed on rated load (JEDEC Method) | I <sub>FSM</sub>      | 300           |          |          |          |          |          |          | Amps.            |
| Rating for fusing at ( t < 8.3 ms. )   | I <sup>2</sup> t      | 160           |          |          |          |          |          |          | A <sup>2</sup> S |
| Maximum Forward Voltage per Diode at I <sub>F</sub> = 5.0 Amps.                            | V <sub>F</sub>        | 1.0           |          |          |          |          |          |          | Volts            |
| Maximum DC Reverse Current Ta = 25 °C at Rated DC Blocking Voltage Ta = 100 °C             | I <sub>R</sub>        | 10            |          |          |          |          |          |          | μA               |
|  | I <sub>R(H)</sub>     | 200           |          |          |          |          |          |          | μA               |
| Typical Thermal Resistance ( Note 1 )  | R <sub>θJC</sub>      | 2.5           |          |          |          |          |          |          | °C/W             |
| Operating Junction Temperature Range   | T <sub>J</sub>        | - 50 to + 150 |          |          |          |          |          |          | °C               |
| Storage Temperature Range  | T <sub>STG</sub>      | - 50 to + 150 |          |          |          |          |          |          | °C               |

### Notes :

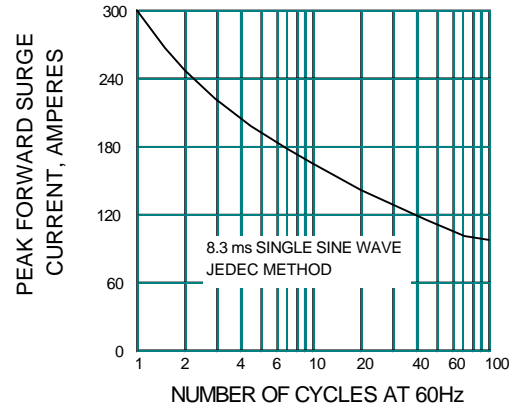
1 ) Thermal resistance from Junction to case with units mounted on a 3.2" x 3.2" x 0.12" (8.2cm.x 8.2cm.x 0.3cm.) Al.-Finned Plate.

## RATING AND CHARACTERISTIC CURVES ( ABR1000 - ABR1010 )

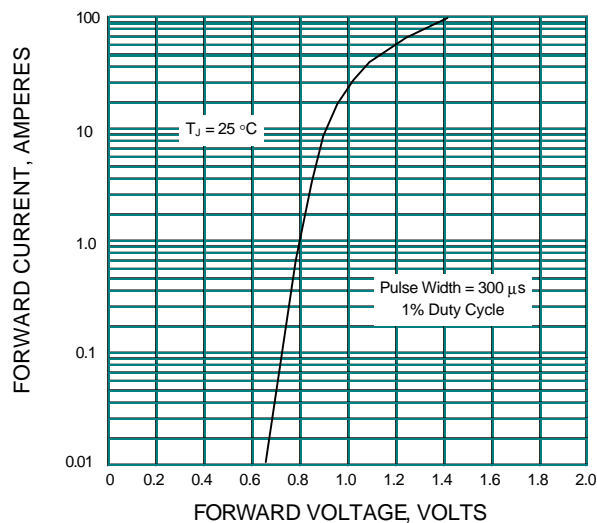
**FIG.1 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT**



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



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



**FIG.4 - TYPICAL REVERSE CHARACTERISTICS**

