

**SINGLE-PHASE SILICON BRIDGE RECTIFIER**

**VOLTAGE RANGE 50 to 1000 Volts CURRENT 10 Amperes**

**FEATURES**

- \* Surge overload rating: 200 amperes peak
- \* Low forward voltage drop

**MECHANICAL DATA**

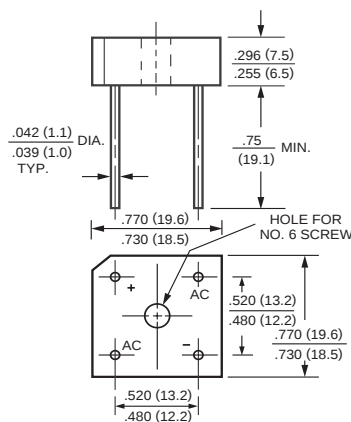
- \* UL listed the recognized component directory, file #E94233
- \* Epoxy: Device has UL flammability classification 94V-O
- \* Lead: Mil-STD-202E method 208C guaranteed
- \* Mounting position: Any
- \* Weight: 7.86 grams
- \* Mounting: Hole thru for # 6 screw

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings 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%.



**BR-10**



Dimensions in inches and (millimeters)

**MAXIMUM RATINGS** (At  $T_A = 25^\circ\text{C}$  unless otherwise noted)

| RATINGS                                                                                                                                | SYMBOL          | BR1005             | BR101 | BR102 | BR104 | BR106 | BR108 | BR1010 | UNITS              |
|----------------------------------------------------------------------------------------------------------------------------------------|-----------------|--------------------|-------|-------|-------|-------|-------|--------|--------------------|
| Maximum Recurrent Peak Reverse Voltage                                                                                                 | $V_{RRM}$       | 50                 | 100   | 200   | 400   | 600   | 800   | 1000   | Volts              |
| Maximum RMS Voltage                                                                                                                    | $V_{RMS}$       | 35                 | 70    | 140   | 280   | 420   | 560   | 700    | Volts              |
| Maximum DC Blocking Voltage                                                                                                            | $V_{DC}$        | 50                 | 100   | 200   | 400   | 600   | 800   | 1000   | Volts              |
| Maximum Average Forward $T_c = 50^\circ\text{C}$<br>Rectified Output Current at: $T_c = 100^\circ\text{C}$<br>$T_A = 50^\circ\text{C}$ | $I_o$           | 10.0<br>6.0<br>6.0 |       |       |       |       |       |        | Amps               |
| Peak Forward Surge Current 8.3 ms single half sine-wave<br>superimposed on rated load (JEDEC method)                                   | $I_{FSM}$       | 200                |       |       |       |       |       |        | Amps               |
| Typical Thermal Resistance                                                                                                             | $R_{\theta JA}$ | 28                 |       |       |       |       |       |        | $^\circ\text{C/W}$ |
| Typical Thermal Resistance                                                                                                             | $R_{\theta JC}$ | 6.5                |       |       |       |       |       |        | $^\circ\text{C/W}$ |
| Operating Temperature Range                                                                                                            | $T_J$           | $-55$ to $+150$    |       |       |       |       |       |        | $^\circ\text{C}$   |
| Storage Temperature Range                                                                                                              | $T_{STG}$       | $-55$ to $+150$    |       |       |       |       |       |        | $^\circ\text{C}$   |

**ELECTRICAL CHARACTERISTICS** (At  $T_A = 25^\circ\text{C}$  unless otherwise noted)

| CHARACTERISTICS                                                | SYMBOL | BR1005 | BR101 | BR102 | BR104 | BR106 | BR108 | BR1010 | UNITS            |
|----------------------------------------------------------------|--------|--------|-------|-------|-------|-------|-------|--------|------------------|
| Maximum Forward Voltage Drop per element at 5.0A DC            | $V_F$  | 1.1    |       |       |       |       |       |        | Volts            |
| Maximum Reverse Current at Rated<br>@ $T_A = 25^\circ\text{C}$ | $I_R$  | 5.0    |       |       |       |       |       |        | $\mu\text{Amps}$ |
| DC Blocking Voltage per element<br>@ $T_c = 100^\circ\text{C}$ |        | 0.2    |       |       |       |       |       |        | mAmps            |

Note: "Fully ROHS compliant", "100% Sn plating (Pb-free)".

# RATING AND CHARACTERISTIC CURVES ( BR1005 THRU BR1010 )

FIG. 1 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

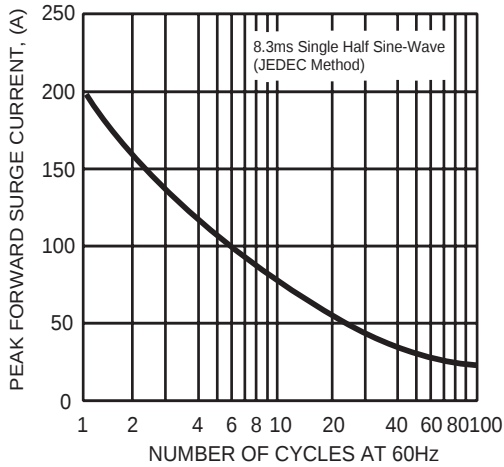


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

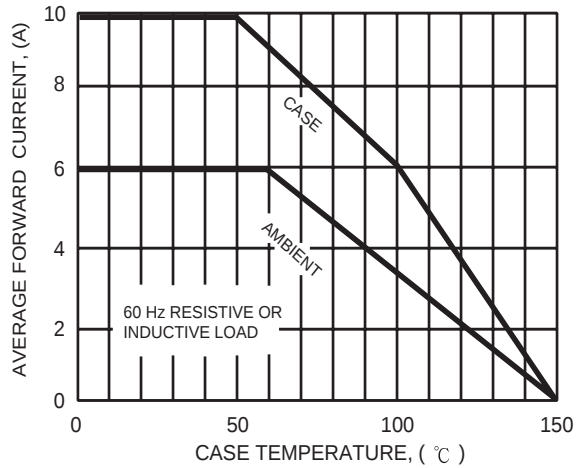


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

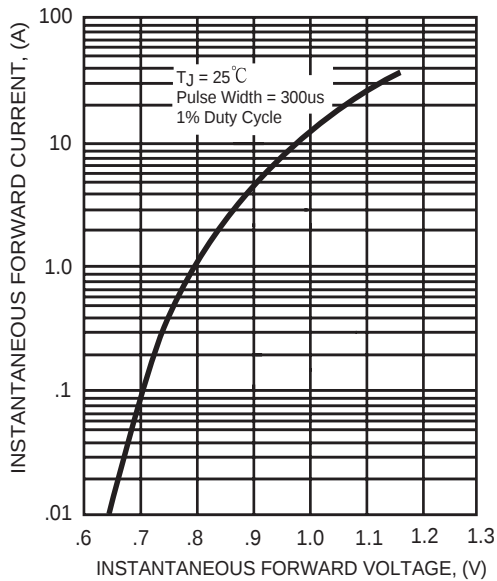


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

