

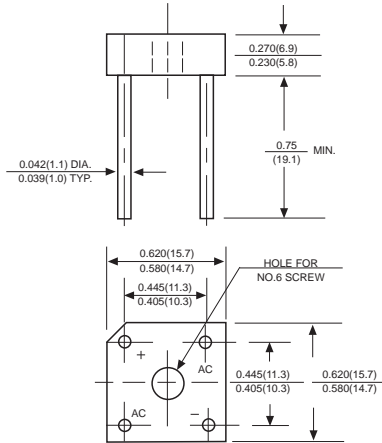


# BR6005 THRU BR610

## SILICON BRIDGE RECTIFIERS

Reverse Voltage - 50 to 1000 Volts Forward Current - 6.0 Amperes

### BR-6



Dimensions in inches and (millimeters)

### FEATURES

- ▶ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ▶ Ideal for printed circuit boards
- ▶ Low reverse leakage
- ▶ High forward surge current capability
- ▶ High temperature soldering guaranteed: 260°C/10 seconds, 5 lbs. (2.3kg) tension

### MECHANICAL DATA

**Case:** Molded plastic body  
**Terminals:** Plated leads solderable per MIL-STD-750, Method 2026  
**Polarity:** Polarity symbols marked on case  
**Mounting:** Thru hole for #6 serew, 5in.-lbs. torque max.  
**Weight:** 0.13 ounce, 3.66 grams

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

TWGMC Catalog Number	SYMBOLS	BR6005	BR601	BR602	BR604	BR606	BR608	BR610	UNITS
Maximum repetitive 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 output rectified current at $T_A=50^\circ\text{C}$ (Note 1) $T_A=25^\circ\text{C}$ (Note 2)	$I_{(AV)}$	6.0 3.0						Amps	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	125						Amps	
Rating for Fusing( $t<8.3\text{ms}$ )	$I^2t$	64						$\text{A}^2\text{s}$	
Maximum instantaneous forward voltage drop per bridge element at 3.0A	$V_F$	1.0						Volts	
Maximum DC reverse current at rated DC blocking voltage $T_A=25^\circ\text{C}$ $T_A=100^\circ\text{C}$	$I_R$	10 1.0						$\mu\text{A}$ mA	
Typical Junction Capacitance (Note 1)	$C_J$	60						pF	
Typical Thermal Resistance (Note 2)	$R_{\theta JA}$	8.0						$^\circ\text{C}/\text{W}$	
Operating junction temperature range	$T_J$	-55 to +125						$^\circ\text{C}$	
storage temperature range	$T_{STG}$	-55 to +150						$^\circ\text{C}$	

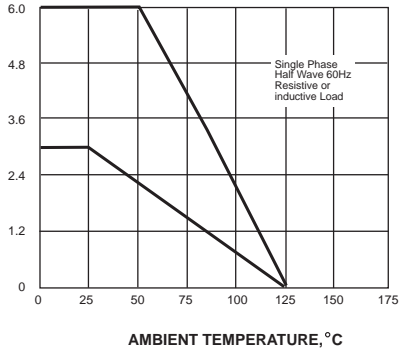
#### NOTES:

1. Unit mounted on 6.0" x 5.5" x 0.11" thick (15x14x0.3cm) Al. plate.
2. Unit mounted on P.C. board with 0.47" x 0.47" (12x12mm) copper pads, 0.375" (9.5mm) lead length.

# RATINGS AND CHARACTERISTIC CURVES BR6005 THRU BR610

AVERAGE FORWARD RECTIFIED CURRENT,  
AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



PEAK FORWARD SURGE CURRENT,  
AMPERES

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

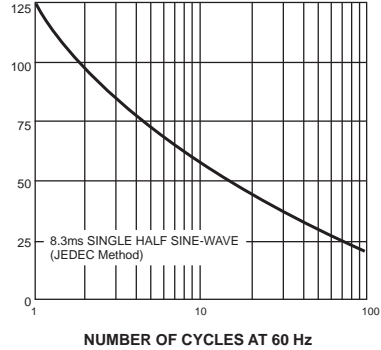


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

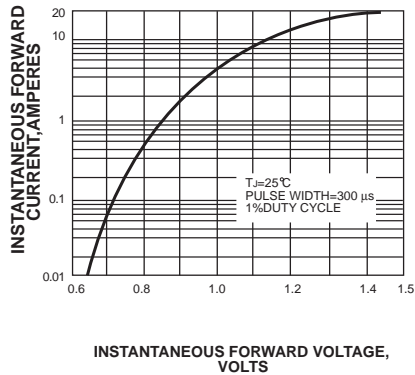


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

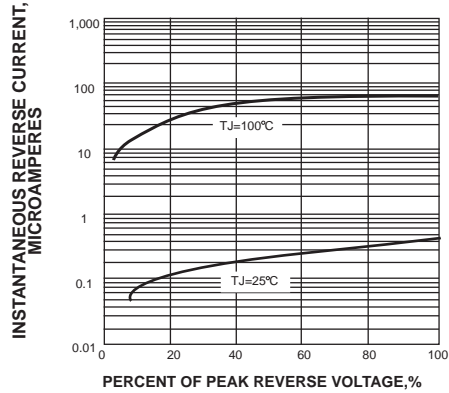
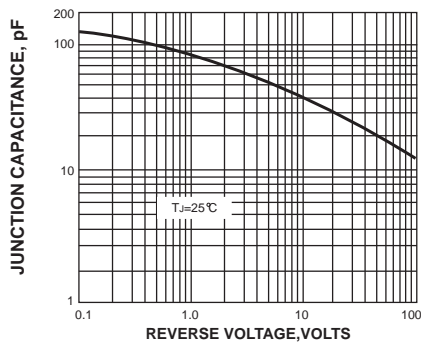


FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE,  
 $^\circ\text{C}/\text{W}$

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

