DC COMPONENTS CO., LTD.

RECTIFIER SPECIALISTS

BR805 THRU BR810

TECHNICAL SPECIFICATIONS OF SINGLE-PHASE SILICON BRIDGE RECTIFIER

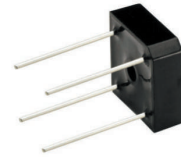*VOLTAGE RANGE - 50 to 1000 Volts*   *CURRENT - 8.0 Amperes*

FEATURES
* Surge overload rating: 125 Amperes peak
* Low forward voltage drop

MECHANICAL DATA
* Case: Molded plastic
* Epoxy: UL 94V-0 rate flame retardant
* Lead: MIL-STD-202, Method 208 guaranteed
* Polarity: Symbols molded or marked on body
* Mounting position: Any
* Weight: 6.9 grams

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Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 $^{\circ}$C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.
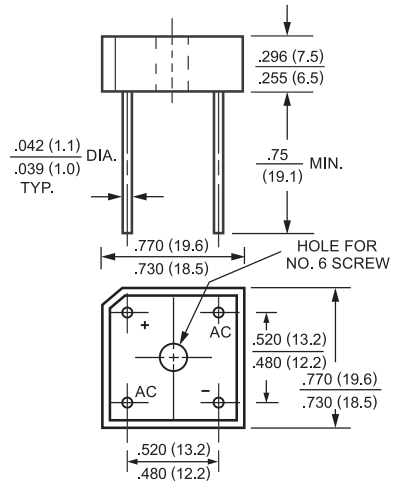
		SYMBOL	BR805	BR81	BR82	BR84	BR86	BR88	BR810	UNITS
Maximum Recurrent Peak Reverse Voltage		V_{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage		V_{RMS}	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage		V_{DC}	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Output Current at Tc = 50°C		I_O				8.0				Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)		I_{FSM}				125				Amps
Maximum Forward Voltage Drop per element at 4.0A DC		V_F				1.1				Volts
Maximum DC Reverse Current at Rated	@ T_A = 25°C	I_R				10				uAmps
DC Blocking Voltage per element	@ T_C = 100°C					500				
I^2t Rating for Fusing (t<8.3ms)		I^2t				166				A^2Sec
Typical Junction Capacitance (Note1)		C_J				200				pF
Typical Thermal Resistance (Note 2)		$R_{\theta JA}$				21				$^{\circ}$C/W
Operating Temperature Range		T_J				-55 to + 125				$^{\circ}$C
Storage Temperature Range		T_{STG}				-55 to + 150				$^{\circ}$C

NOTES : 1.Measured at 1 MHz and applied reverse voltage of 4.0 volts
2. Thermal Resistance from Junction to Ambient and from junction to lead mounted on P.C.B. with 0.5 x 0.5" (13x13mm) copper pads.

FIG. 1 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

8.3ms Single Half Sine-Wave (JEDEC Method)

PEAK FORWARD SURGE CURRENT, (A)

NUMBER OF CYCLES AT 60Hz
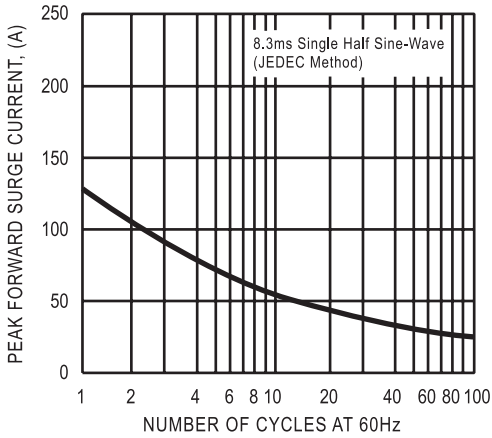
FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

AVERAGE FORWARD CURRENT, (A)

PC Board Mounting

Heat-Sink Mounting

CASE TEMPERATURE, ($^\circ$C)
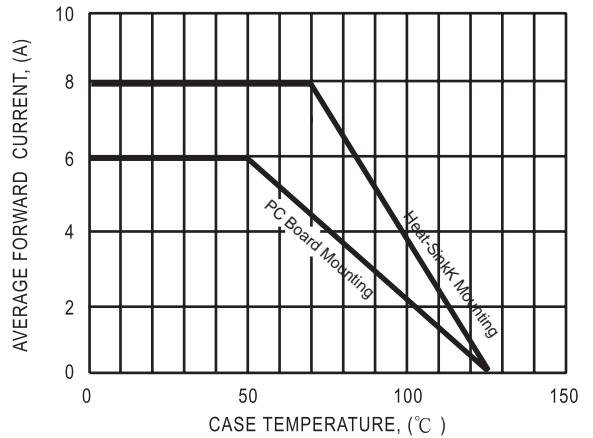
FIG. 3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

$T_J = 25^\circ$C
Pulse Width = 300us
1% Duty Cycle

INSTANTANEOUS FORWARD CURRENT, (A)

INSTANTANEOUS FORWARD VOLTAGE, (V)
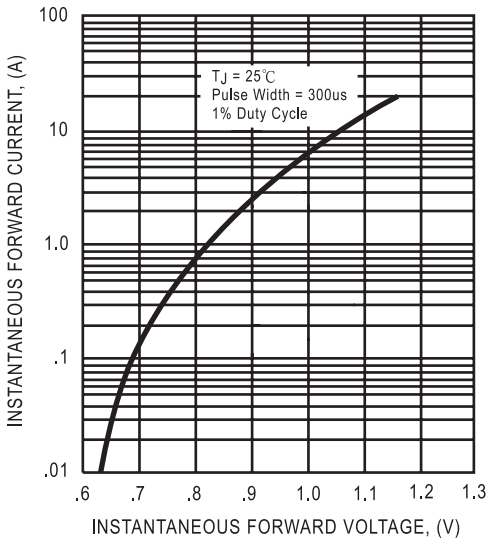
FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

INSTANTANEOUS REVERSE CURRENT, (uA)

$T_J = 25^\circ$C

PERCENT OF RATED PEAK REVERSE VOLTAGE, (%)

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