

# GBPC6005 - GBPC610

# GLASS PASSIVATED SINGLE-PHASE BRIDGE RECTIFIERS

**PRV : 50 - 1000 Volts**

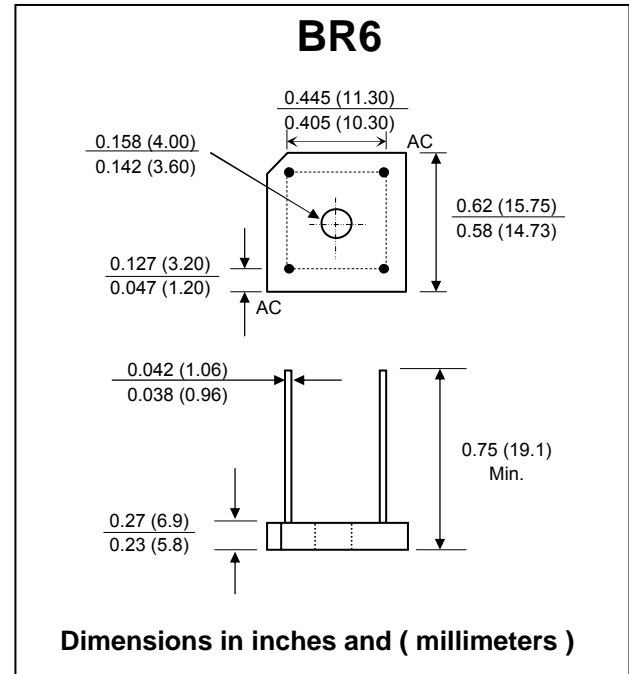
**Io : 6.0 Amperes**

### FEATURES :

- \* Glass passivated chip
- \* High surge current capability
- \* High current capability
- \* High reliability
- \* Low reverse current
- \* Low forward voltage drop
- \* Ideal for printed circuit board
- \* **Pb / RoHS Free**

### 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 : 3.6 grams



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise noted.

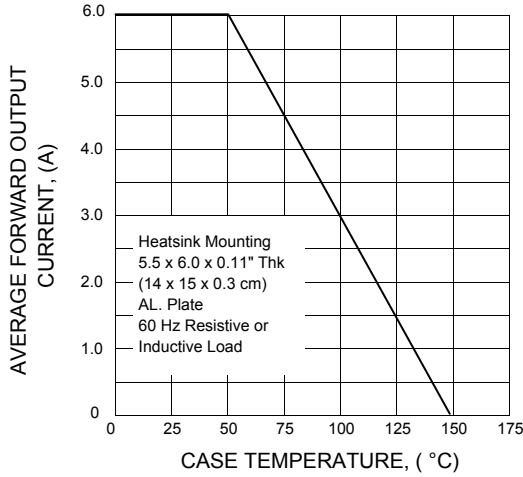
RATING	SYMBOL	GBPC 6005	GBPC 601	GBPC 602	GBPC 604	GBPC 606	GBPC 608	GBPC 610	UNIT
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum RMS Bridge Input Voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1000	V
Maximum Average Forward Current $T_c = 50\text{ }^\circ\text{C}$ <sup>(1,2)</sup>	$I_{F(AV)}$	6.0							A
Peak Forward Surge Current Single Sine Wave Superimposed on Rated Load	$I_{FSM}$	175							A
Rating for fusing ( $t < 8.3\text{ ms}$ )	$I^2t$	127							A <sup>2</sup> sec
Maximum Instantaneous Forward Voltage Drop Per Leg at $I_F = 3\text{ A}$ .	$V_F$	1.0							V
Maximum DC Reverse Current at $T_a = 25\text{ }^\circ\text{C}$	$I_R$	5							$\mu\text{A}$
Rated DC Blocking Voltage Per Leg $T_a = 125\text{ }^\circ\text{C}$	$I_{R(H)}$	500							$\mu\text{A}$
Typical Junction Capacitance Per Leg(at 4 V, 1MHz)	$C_J$	186				90			pF
Typical Thermal Resistance Per Leg <sup>(1)</sup>	$R_{\theta JA}$	22							$^\circ\text{C/W}$
	$R_{\theta JC}$	7.3							$^\circ\text{C/W}$
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	- 55 to + 150							$^\circ\text{C}$

### Notes :

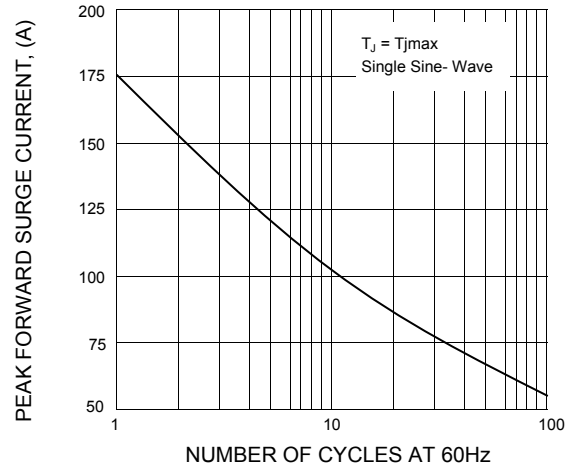
- (1) Bolt down on heat-sink with silicone thermal compound between bridge and mounting surface for maximum heat transfer with #6 screw
- (2) Unit mounted on 5.5 x 6.0 x 0.11" thick (14 x 15 x 0.3 cm) Al. Plate

**RATING AND CHARACTERISTIC CURVES ( GBPC6005 - GBPC610 )**

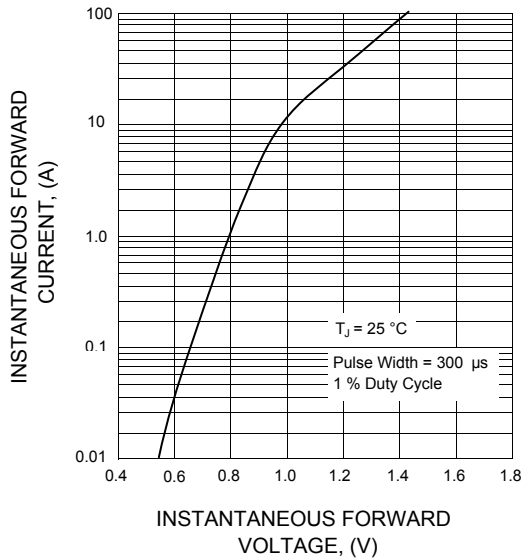
**FIG.1 - DERATING CURVE OUTPUT RECTIFIED CURRENT**



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



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



**FIG.4 - TYPICAL REVERSE CHARACTERISTICS PER LEG**

