

## GLASS PASSIVATED SINGLE-OHASE BPIDGE RECTIFIER

**GBPC50005 THRU GBPC5010**

**VOLTAGE RANGE**      **50 to 1000 Volts**

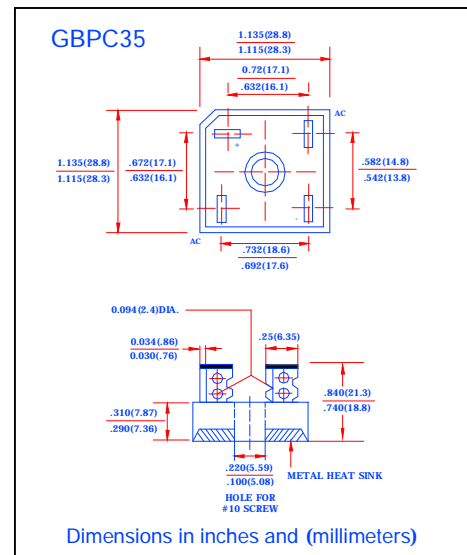
**CURRENT**              **50.0 Amperes**

### FEATURES

- Plastic package has UL flammability classification 94V-0
- Integrally molded heatsink provides very low thermal resistance for maximum heat dissipation
- High forward surge capacity
- Glass passivated chip junction
- High isolation voltage from case to lugs
- High temperature soldering guaranteed: 260°C/10 seconds,

### MECHANICAL DATA

- Case: Epoxy, Molded Plastic with integrally mounted heatsink
- Terminals: Plated 0.25" (6.35mm) lug
- Polarity: Polarity symbols market on case
- Mounting: Thru hole for #10 screw, 20 in-lbs Torque max. See Note 3
- Weight: 0.62 ounce, 17.5 gram



### 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 derate current by 20%

	SYMBOLS	GBPC 50005	GBPC 5001	GBPC 5002	GBPC 5004	GBPC 5006	GBPC 5008	GBPC 5010	UNIT
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 Rectified Current At $T_C=55^\circ\text{C}$ (SEE FIG.1)	$I_{(AV)}$	50							Amps
Peak Forward Surge Current 8.3mS single half sine wave superimposed on rated load (JEDEC method)	$I_{FSM}$	500							Amps
Rating for Fusing ( $t < 8.3\text{ms}$ )	$I^2t$	1037							$\text{A}^2\text{s}$
Maximum Instantaneous Forward Voltage drop Per Bridge element 25.0A	$V_F$	1.1							Volts
Maximum DC Reverse Current at rated DC blocking Voltage per element	$T_A = 25^\circ\text{C}$	5.0							$\mu\text{A}$
	$T_A = 125^\circ\text{C}$	1.0							
Isolation Voltage from case to lug	$V_{ISO}$	2500							Volts
Typical Thermal Resistance (Note 1 and 2)	$R_{\theta JC}$	1.6							$^\circ\text{C}/\text{W}$
Operating Junction Temperature	$T_J$	(-55 to +150)							$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	(-55 to +150)							$^\circ\text{C}$

- Notes:**
1. Unit mounted on 9" x 3.5" x 4.6" (23cm x 9cm x 11.8cm) AL Plate.
  2. Bolt down on heat-sink with silicon thermal compound between bridge and mounting surface for maximum heat transfer efficiency with #10 screw

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### RATINGS AND CHARACTERISTICS CURVES GBPC50005 THRU GBPC5010

FIG. 1 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

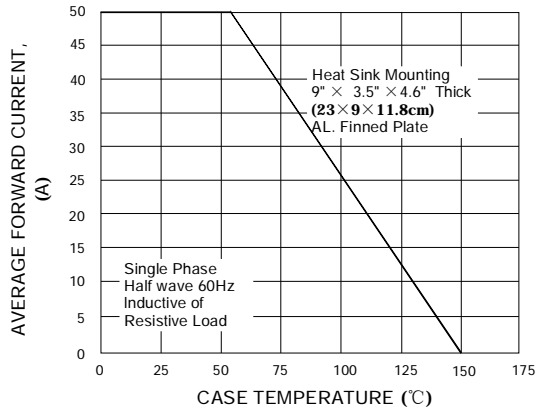


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

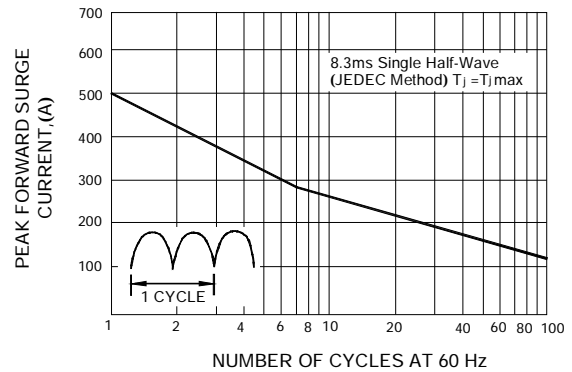


FIG. 3 - TYPICAL FORWARD CHARACTERISTICS PER BRIDGE ELEMENT

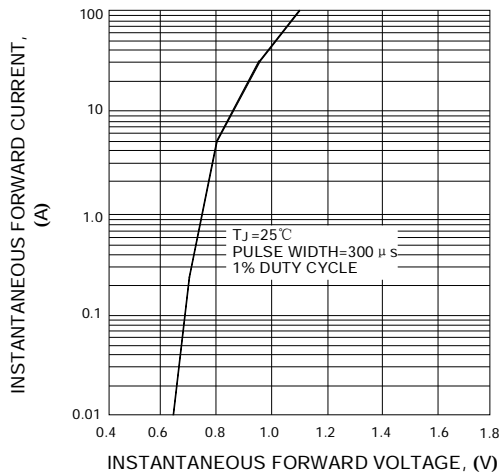


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS PER BRIDGE ELEMENT

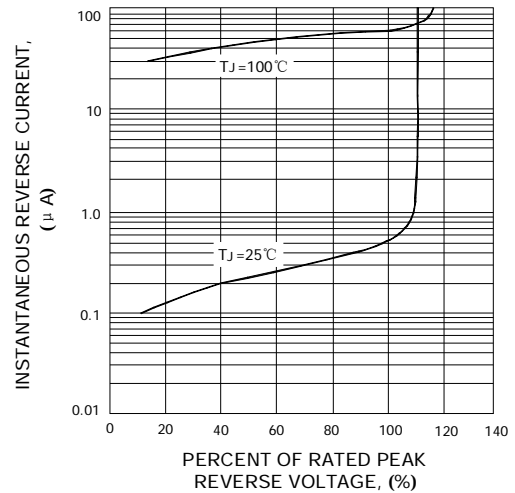


FIG. 5 - MAXIMUM POWER DISSIPATION

