

SINGLE PHASE BRIDGE RECTIFIER

GBPC50005 THRU GBPC5010

**VOLTAGE RANGE
CURRENT**

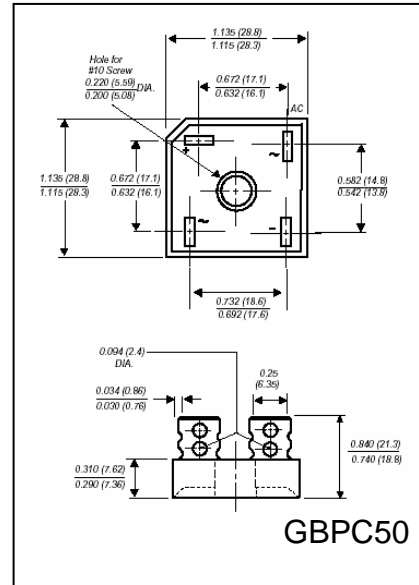
**50 to 1000 Volts
50.0 Ampere**

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: Molded plastic with integrally mounted heatsink
- Terminal: Plated 0.25" (6.35mm) lug
- Polarity: Polarity symbols marked 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 $T_C = 55^\circ C$ (Note 2)	$I_{(AV)}$	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 ($t < 8.3mS$)	I^2t	1037							A^2s
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	I_R	10							μA
		1.0							mA
Isolation Voltage from case to lug	V_{ISO}	2500							Volts
Typical Thermal Resistance (Note 1 and 2)	$R_{\theta Jc}$	2.0							$^\circ C/W$
Operating Junction Temperature	T_J	(-55 to +150)							$^\circ C$
Storage Temperature Rang	T_{STG}	(-55 to +150)							$^\circ C$

Notes:

1. Unit mounted on 9" x 3.5" x 4.6" (23cm x 9 cm 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



RATINGS AND CHARACTERISTIC CURVES GBPC5005 THRU GBPC5010

FIG.1- DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

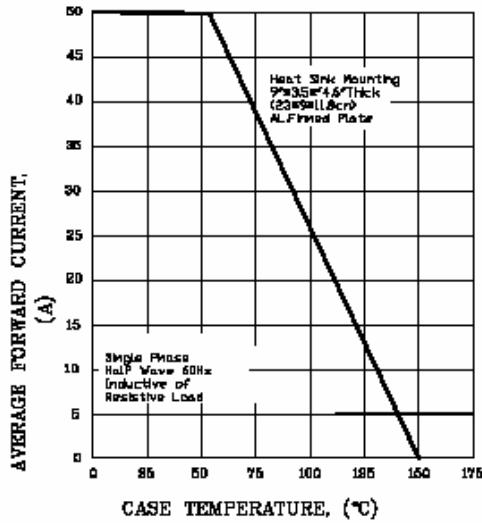


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

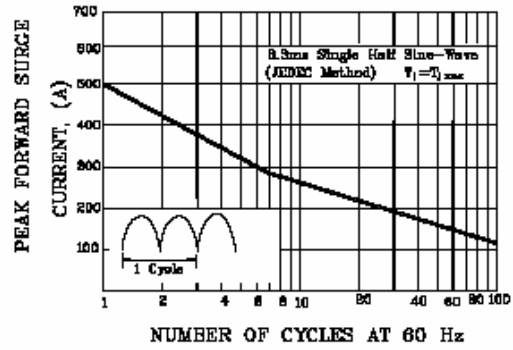


FIG.3-TYPICAL FORWARD CHARACTERISTICS PER BRIDGE ELEMENT

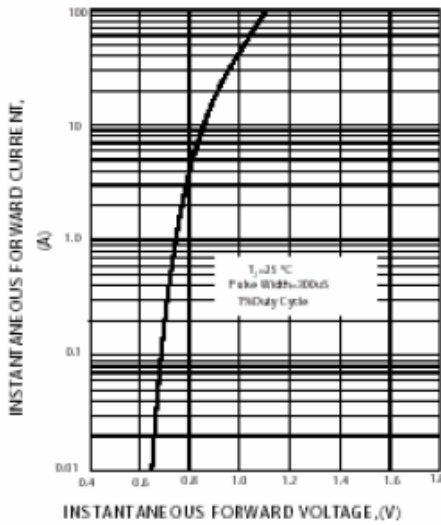


FIG.4-TYPICAL REVERSE CHARACTERISTICS PER BRIDGE ELEMENT

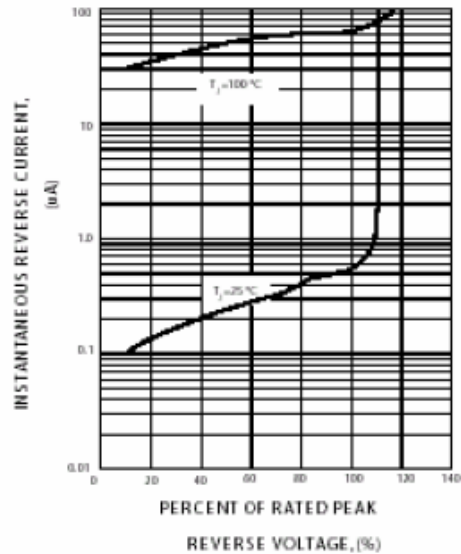


FIG.6-MAXIMUM POWER DISSIPATION

