

Glass Passivated Single-Phase Bridge Rectifier

Rectifier Reverse Voltage 50 and 1000 V

Rectifier Forward Current 3.0 A

Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- This series is UL listed under the Recognized Component Index, file number E54214
- Glass passivated chip junction
- High case dielectric with standing voltage of 1500 VRMS
- Typical I_R less than 0.1 μ A
- High surge current capability
- Ideal for printed circuit boards
- High temperature soldering guaranteed:
260°C/10 seconds, 0.375 (9.5mm) lead length, 5lbs. (2.3kg) tension

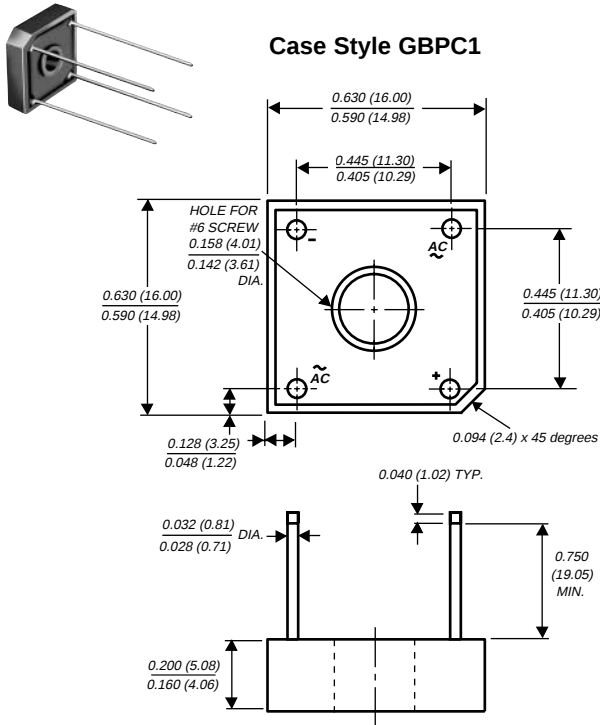
Mechanical Data

Case: Molded plastic body over passivated junctions

Terminals: Plated leads solderable per MIL-STD-750, Method 2026

Mounting Position: Any (NOTE 1)

Weight: 0.1 ounce, 2.8 grams



Polarity shown on side of case: Positive lead by beveled corner

Dimensions in inches and (millimeters)

Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	GBPC 1005	GBPC 101	GBPC 102	GBPC 104	GBPC 106	GBPC 108	GBPC 110	UNITS
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 rectified output current at $T_C=60^\circ\text{C}$ (NOTE 2) $T_A=25^\circ\text{C}$ (NOTE 3)	$I_{F(AV)}$	3.0 2.0							A
Peak forward surge current single sine-wave superimposed on rated load (JEDEC Method) $T_C=60^\circ\text{C}$	I_{FSM}	60							A
Rating for fusing ($t < 8.3\text{ms}$)	I^2t	15							A ² sec
Typical thermal resistance per leg (NOTE 1)	$R_{\theta JA}$ $R_{\theta JC}$	12 8.0							°C/W
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150							°C

Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	GBPC 1005	GBPC 101	GBPC 102	GBPC 104	GBPC 106	GBPC 108	GBPC 110	UNITS
Maximum instantaneous forward voltage drop per leg at 1.5 Amperes	V_F	1.0							V
Maximum DC reverse current at rated $T_A=25^\circ\text{C}$ DC blocking voltage per leg $T_A=125^\circ\text{C}$	I_R	5.0 500							μ A
Typical junction capacitance per leg at 4.0V, 1MHz	C_J	21							pF

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 4.0 x 4.0 x 0.11" thick (10.5 x 10.5 x 0.3cm) Al. Plate
- (3) Unit mounted on P.C.B. at 0.375" (9.5mm) lead length with 0.5 x 0.5" (12 x 12mm) copper pads

Ratings and Characteristic Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

FIG. 1 - DERATING CURVE OUTPUT RECTIFIED CURRENT

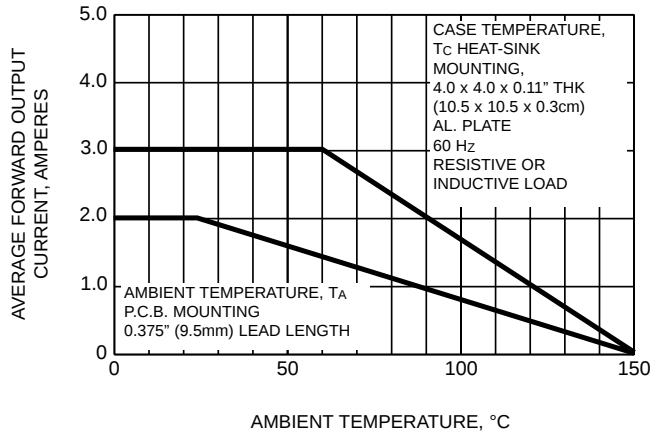


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

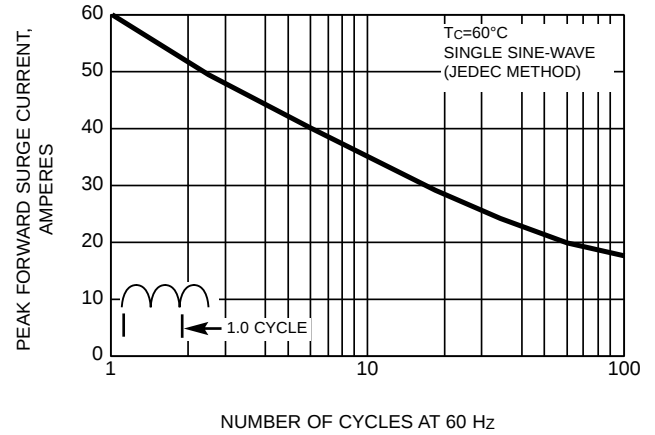


FIG. 3 - TYPICAL FORWARD CHARACTERISTICS PER LEG

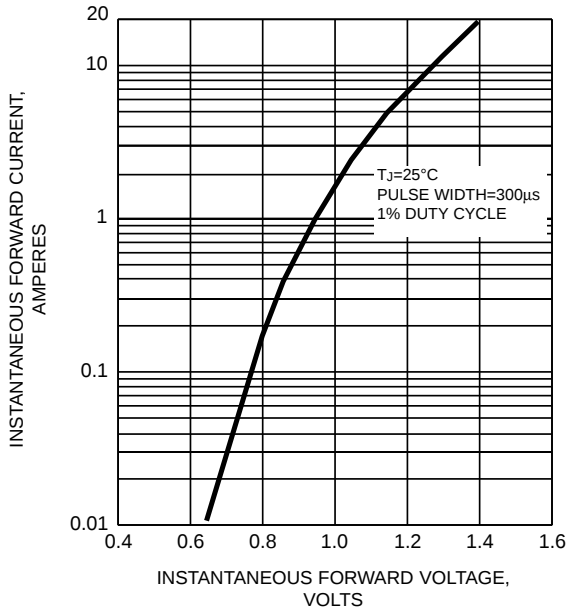


FIG. 4 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS PER LEG

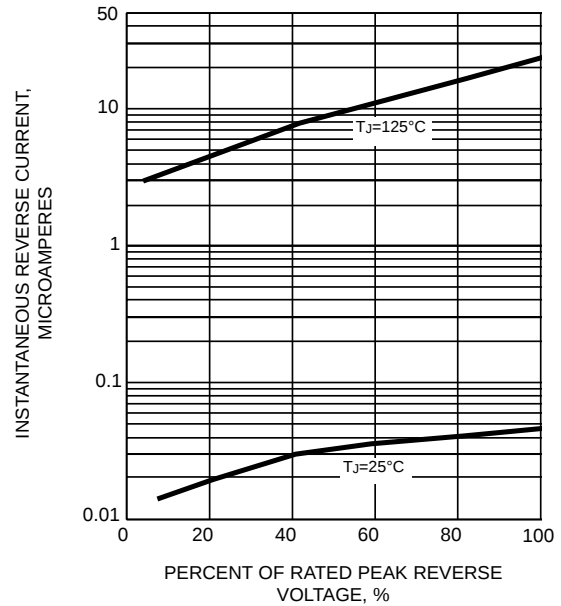


FIG. 5 - TYPICAL JUNCTION CAPACITANCE PER LEG

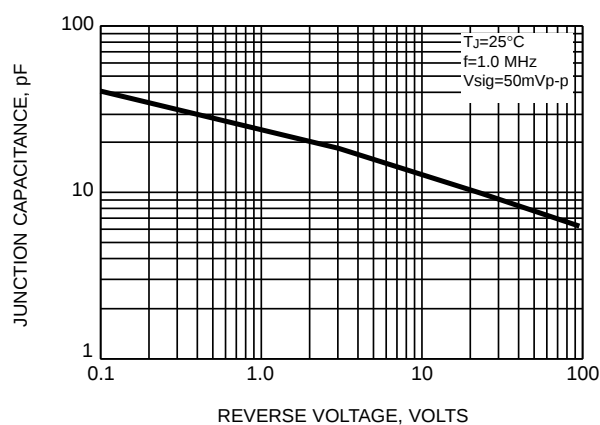


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

