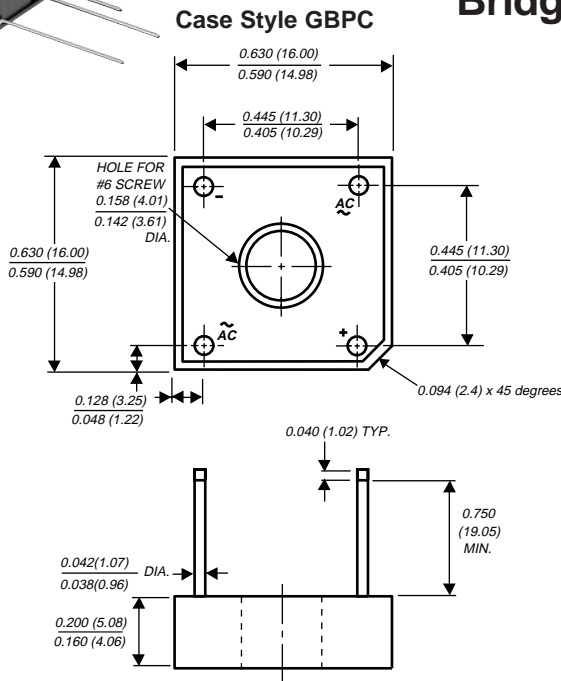


Glass Passivated Single-Phase Bridge Rectifier

Reverse Voltage 50 and 1000 V
Forward Current 6.0 A



Polarity shown on side of case: Positive lead by beveled corner
Dimensions in inches and (millimeters)

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 0.5 μ A
- High forward surge current capability
- Ideal for printed circuit boards
- High temperature soldering guaranteed: 260°C/10 seconds at 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)
Mounting Torque: 5.0 in. - lb. max.
Weight: 0.1 oz., 2.8 g
Packaging codes/options: 1/100 EA. per Bulk Box

Maximum Ratings & Thermal Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbols	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 rectified output current at $T_C=50^\circ\text{C}$ ^(1, 2) $T_A=40^\circ\text{C}$ ⁽³⁾	$I_{F(AV)}$	6.0 3.0							A
Peak forward surge current single sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	175							A
Rating for fusing ($t < 8.3\text{ms}$)	I^2t	127							A ² sec
Typical thermal resistance per leg ⁽¹⁾	$R_{\theta JA}$ $R_{\theta JC}$	22 7.3							°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.

Maximum instantaneous forward voltage drop per leg at 3.0 A	V_F	1.0							V
Maximum DC reverse current at rated DC blocking voltage per leg $T_A=25^\circ\text{C}$ $T_A=125^\circ\text{C}$	I_R	5.0 500							μ A
Typical junction capacitance per leg at 4.0V, 1MHz	C_J	186			90				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 5.5 x 6.0 x 0.11" thick (14 x 15 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

Vishay Semiconductors
formerly General Semiconductor

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

**Fig. 1 – Derating Curve
Output Rectified Current**

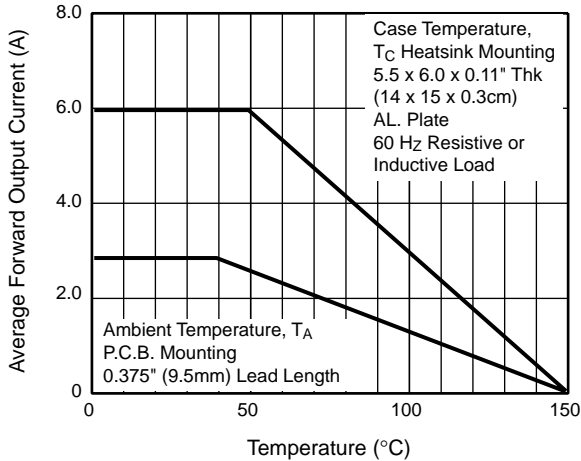


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current Per Leg

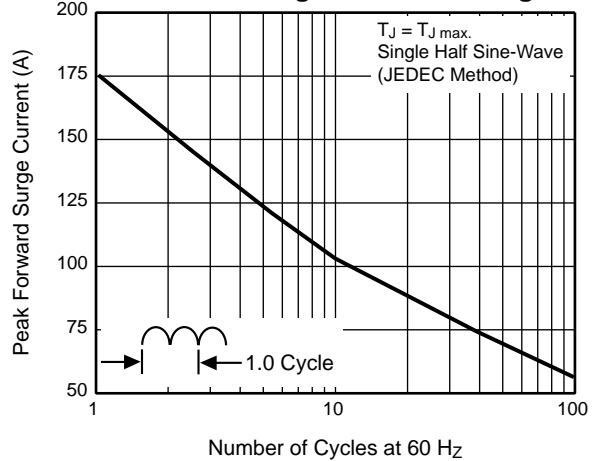


Fig. 3 – Typical Forward Characteristics Per Leg

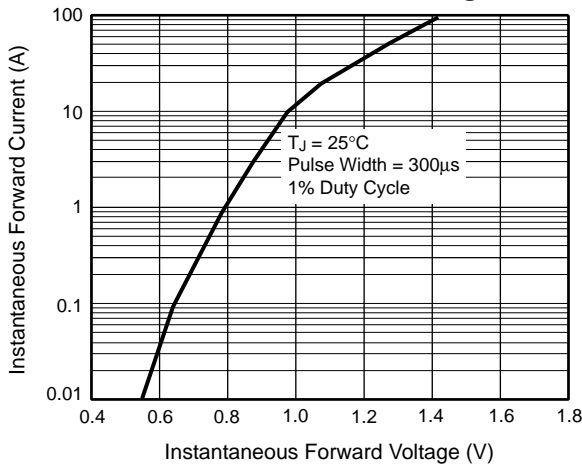


Fig. 4 – Typical Reverse Leakage Characteristics Per Leg

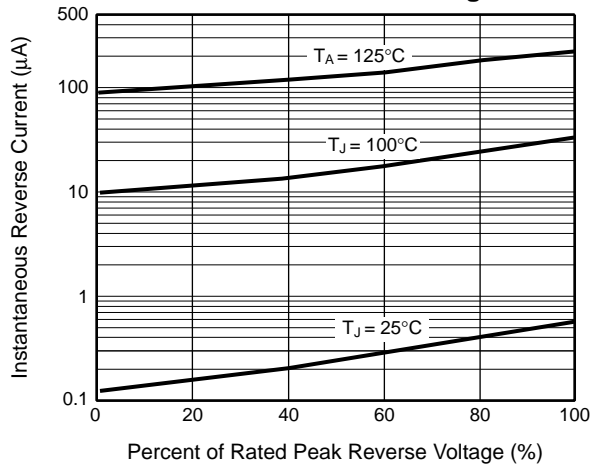


Fig. 5 – Typical Junction Capacitance Per Leg

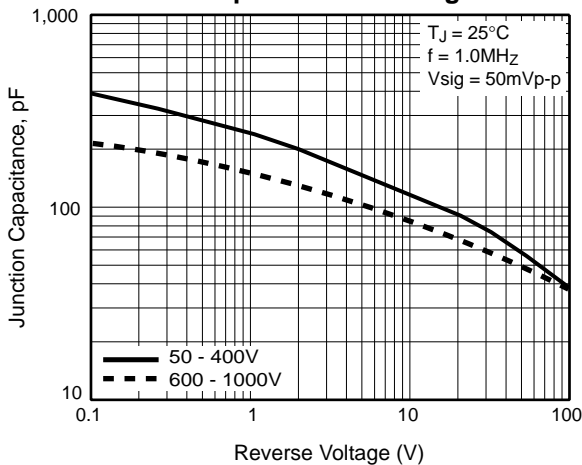


Fig. 6 – Typical Transient Thermal Impedance Per Leg

