

ANTREX Electronics

Electronic Components Sourcing Information

Product Reference Information

Part Number:	GBPC1005-E4/51
Manufacturer:	Vishay General Semiconductor - Diodes Division
Package:	4-Square, GBPC-1
Availability:	Please confirm with sales

Product Page:

<https://antrexco.com/product/details/vishay-general-semiconductor-diodes-division/gbpc1005-e4-51.html>

Request a Quote:

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New & Original Components

Supplier verification and packaging condition review

CoC / RoHS / REACH documents available on request

Secure sourcing support for OEM / EMS projects

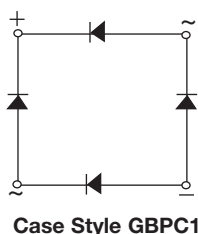
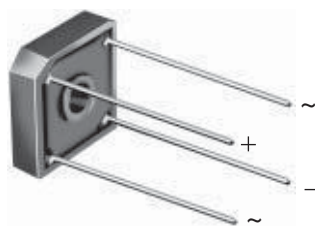
Note:

This PDF includes an ANTREX product reference cover page.

The original manufacturer datasheet follows from the next page.



Glass Passivated Single-Phase Bridge Rectifier



FEATURES

- UL recognition, file number E54214
- Ideal for printed circuit boards
- Typical I_R less than 0.1 μA
- High case dielectric strength
- High surge current capability
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

RoHS
COMPLIANT

PRIMARY CHARACTERISTICS

Package	GBPC1
$I_{F(AV)}$	3 A
V_{RRM}	50 V, 100 V, 200 V, 400 V, 600 V, 800 V, 1000 V
I_{FSM}	60 A
I_R	5 μA
V_F at $I_F = 1.5$ A	1.0 V
T_J max.	150 °C
Diode variations	Quad

TYPICAL APPLICATIONS

General purpose use in AC/DC bridge full wave rectification for switching power supply, home appliances, office equipment, industrial automation applications.

MECHANICAL DATA

Case: GBPC1

Molding compound meets UL 94 V-0 flammability rating
Base P/N-E4 - RoHS-compliant, commercial grade

Terminals: Silver plated leads, solderable per J-STD-002 and JESD22-B102

Polarity: As marked, positive lead by beveled corner

Mounting Torque: 10 cm-kg (8.8 inches-lbs) max.

Recommended Torque: 5.7 cm-kg (5 inches-lbs)

MAXIMUM RATINGS ($T_A = 25$ °C unless otherwise noted)

PARAMETER	SYMBOL	GBPC 1005	GBPC 101	GBPC 102	GBPC 104	GBPC 106	GBPC 108	GBPC 110	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 $T_C = 60$ °C ⁽¹⁾ $T_A = 25$ °C ⁽²⁾	$I_{F(AV)}$	3.0							A
		2.0							
Peak forward surge current single sine-wave superimposed on rated load	I_{FSM}	60							A
Rating for fusing ($t < 8.3$ ms)	I^2t	15							A ² s
Operating junction and storage temperature range	T_J, T_{STG}	- 55 to + 150							°C

Notes

⁽¹⁾ Unit mounted on 4.0" x 4.0" x 0.11" thick (10.5 cm x 10.5 cm x 0.3 cm) aluminum plate

⁽²⁾ Unit mounted on P.C.B. at 0.375" (9.5 mm) lead length with 0.5" x 0.5" (12 mm x 12 mm) copper pads

**ELECTRICAL CHARACTERISTICS** ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	TEST CONDITIONS	SYMBOL	GBPC 1005	GBPC 101	GBPC 102	GBPC 104	GBPC 106	GBPC 108	GBPC 110	UNIT
Maximum instantaneous forward voltage drop per diode	I _F = 1.5 A	V _F	1.0							V
Maximum DC reverse current at rated DC blocking voltage per diode	T _A = 25 °C	I _R	5.0							μA
	T _A = 125 °C		500							
Typical junction capacitance per diode	4.0 V, 1 MHz	C _J	21							pF

THERMAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	GBPC 1005	GBPC 101	GBPC 102	GBPC 104	GBPC 106	GBPC 108	GBPC 110	UNIT
Typical thermal resistance ⁽¹⁾	R _{θJA}	12							°C/W
	R _{θJC}	8.0							

Note

⁽¹⁾ Bolt down on heat-sink with silicone thermal compound between bridge and mounting surface for maximum heat transfer with #6 screw

ORDERING INFORMATION (Example)

PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
GBPC106-E4/51	2.5	51	100	Paper box

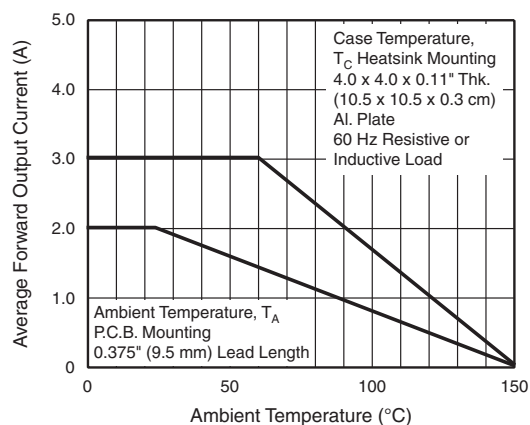
RATINGS AND CHARACTERISTICS CURVES ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig. 1 - Derating Curve Output Rectified Current

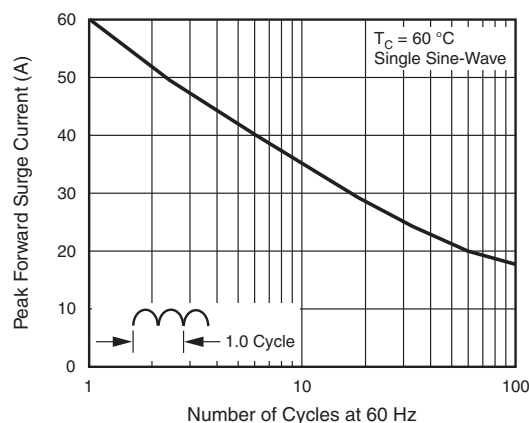


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

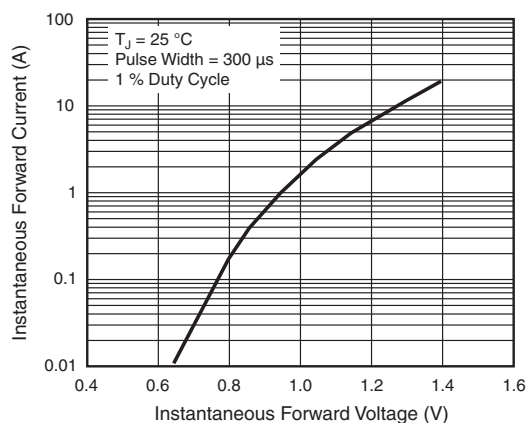


Fig. 3 - Typical Forward Characteristics Per Diode

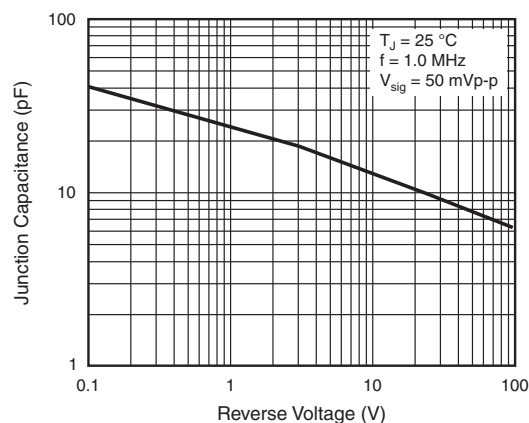


Fig. 5 - Typical Junction Capacitance Per Diode

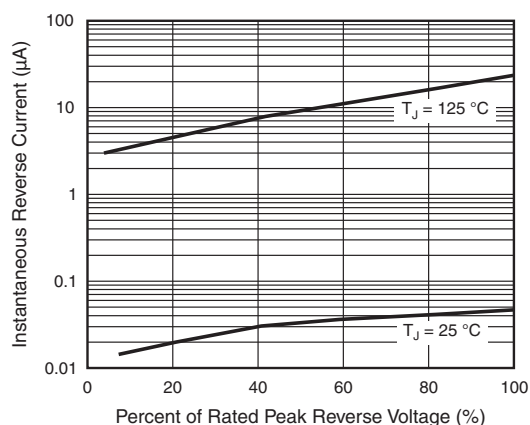


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

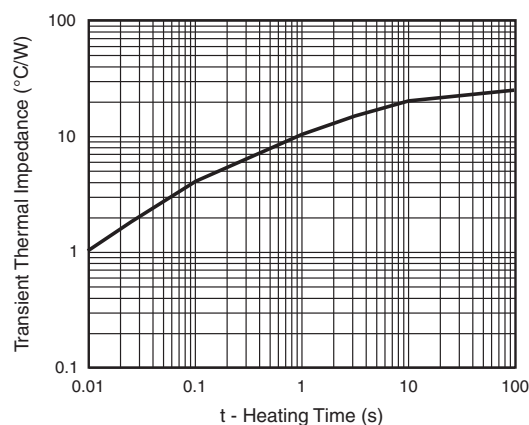
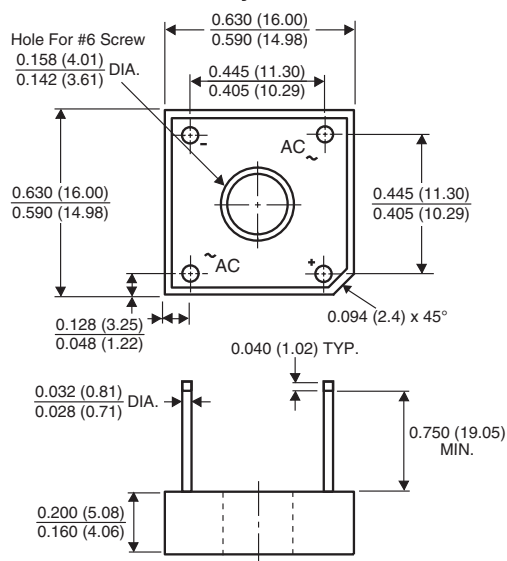


Fig. 6 - Typical Transient Thermal Impedance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)**Case Style GBPC1**

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



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