



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

Dimensions in inches and (millimeters)

## Glass Passivated Single-Phase Bridge Rectifier

**Reverse Voltage** 50 and 1000 V  
**Forward Current** 6.0 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 IR less than 0.5µA
- 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 ounce, 2.8 grams

### Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

	<b>SYMBOLS</b>	<b>GBPC 6005</b>	<b>GBPC 601</b>	<b>GBPC 602</b>	<b>GBPC 604</b>	<b>GBPC 606</b>	<b>GBPC 608</b>	<b>GBPC 610</b>	<b>UNITS</b>
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	V
Maximum RMS bridge input voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	V
Maximum average forward rectified output current at T <sub>C</sub> =50°C (NOTE 1, 2) T <sub>A</sub> =40°C (NOTE 3)	I <sub>F(AV)</sub>				6.0				A
6.0					3.0				
Peak forward surge current single sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>				175				A
Rating for fusing (t<8.3ms)	I <sup>2</sup> t				127				A <sup>2</sup> sec
Typical thermal resistance per leg (NOTE 1)	R <sub>θJA</sub> R <sub>θJC</sub>				22				°C/W
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>				-55 to +150				°C

### Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

	<b>SYMBOLS</b>	<b>GBPC 6005</b>	<b>GBPC 601</b>	<b>GBPC 602</b>	<b>GBPC 604</b>	<b>GBPC 606</b>	<b>GBPC 608</b>	<b>GBPC 610</b>	<b>UNITS</b>
Maximum instantaneous forward voltage drop per leg at 3.0 A	V <sub>F</sub>			1.0					V
Maximum DC reverse current at rated DC blocking voltage per leg T <sub>A</sub> = 25°C T <sub>A</sub> =125°C	I <sub>R</sub>			5.0					µA
				500					
Typical junction capacitance per leg at 4.0V, 1MHz	C <sub>J</sub>		186			90			pF

**Notes:**

- Bolt down on heat-sink with silicone thermal compound between bridge and mounting surface for maximum heat transfer with #6 screw
- Unit mounted on 5.5 x 6.0 x 0.11" thick (14 x 15 x 0.3cm) Al. Plate
- 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)

