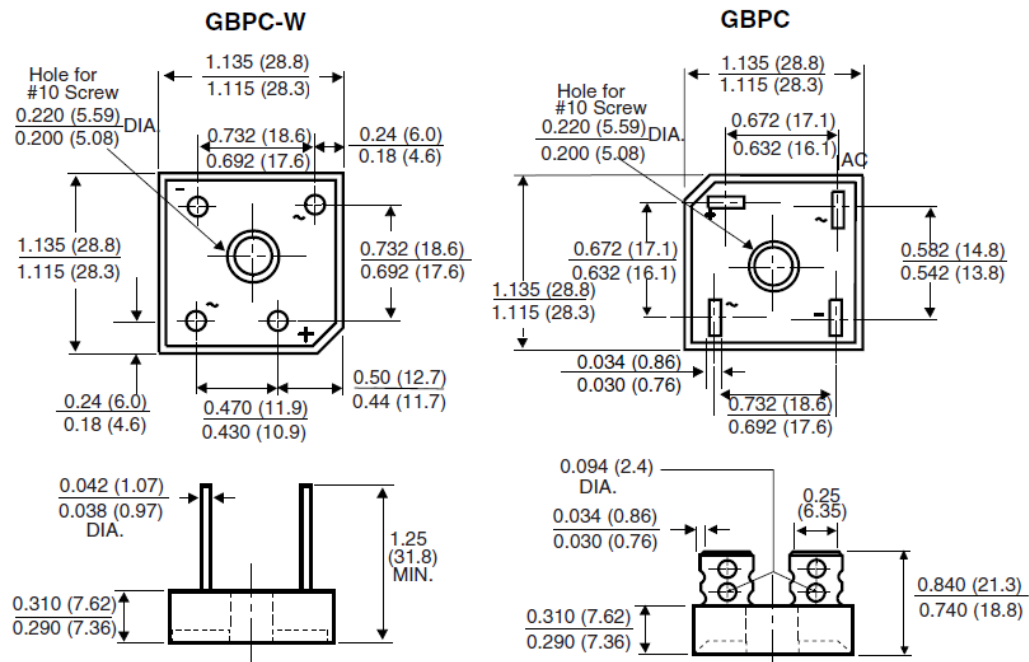


**GBPC50005(W)-GBPC5010(W)**
**Single-Phase 50A Glass Passivated Bridge Rectifier**
**Features:**

- Universal 3-way terminals: snap-on, wire wrap-around, or P.C.B. mounting
- Typical IR less than 0.3  $\mu$ A
- High surge current capability
- Low thermal resistance
- Solder Dip 260 °C, 40 seconds
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC
- This is a Pb – Free Device
- All SMC Parts are Traceable to the Wafer Lot
- Additional testing can be offered upon request

**Mechanical Data:**

- Case: GBPC, GBPC-W, Molded plastic
- Terminals: Nickel plated on faston lugs or Silver plated on wire leads, solderable per J-STD-002B and JESD22-B102D. E4 suffix for commercial grade. Suffix letter "W" added to indicate wire leads (e.g.GBPC15005W).
- Polarity: As marked, positive lead by beveled corner
- Mounting Position: Any
- Marking: Type Number
- Mounting Torque: 20 inches-lbs. max.

**Mechanical Dimensions: In Inches/mm**




## GBPC50005(W)-GBPC5010(W)

Technical Data  
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### Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Single Phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

Type Number	Symbol	GBPC 50005	GBPC 5001	GBPC 5002	GBPC 5004	GBPC 5006	GBPC 5008	GBPC 5010	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_{DC}$	50	100	200	400	600	800	1000	V
RMS Reverse Voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
Maximum average forward rectified output current (see Fig. 1)	$I_{F(AV)}$	50							A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	500							A
Maximum instantaneous forward drop per diode @ $I_F = 25A$	$V_F$	1.1							V
Maximum reverse DC current at rated DC blocking voltage per diode	$I_R @ T_A = 25^\circ C$	5.0							$\mu A$
	$I_R @ T_A = 125^\circ C$	500							
Typical Junction Capacitance(per leg) @ 4 V, 1 MHz	$C_J$	300							pF
Typical Thermal Resistance (per leg)	$R_{\theta JC}$	1.4							°C/W
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150							°C
Case Style	GBPC/ GBPC-W								

- China - Germany - Korea - Singapore - United States •
- <http://www.smc-diodes.com> - [sales@smc-diodes.com](mailto:sales@smc-diodes.com) •

**Technical Data**  
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**RATINGS AND CHARACTERISTICS CURVES**

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

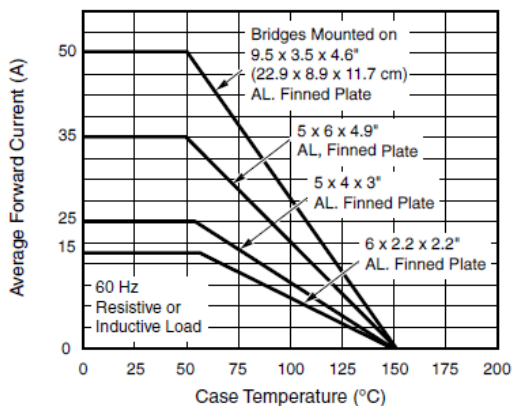


Figure 1. Maximum Output Rectified Current

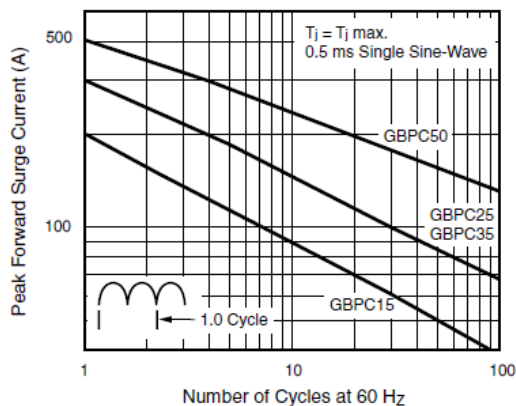


Figure 4. Maximum Non-Repetitive Peak Forward Surge Current Per Diode

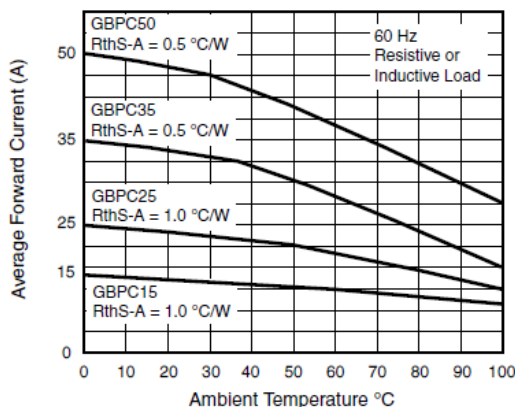


Figure 2. Maximum Output Rectified Current

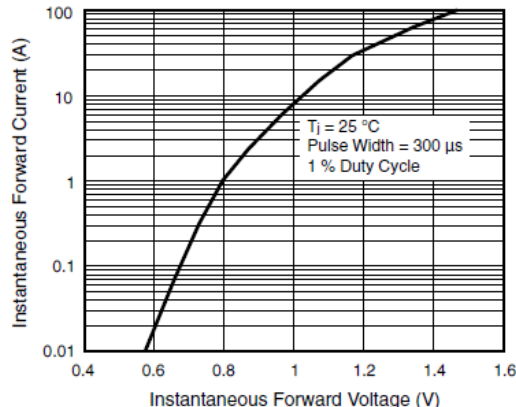


Figure 5. Typical Instantaneous Forward Characteristics Per Diode

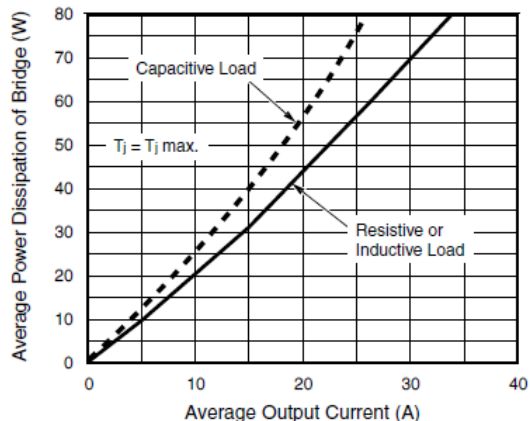


Figure 3. Maximum Power Dissipation

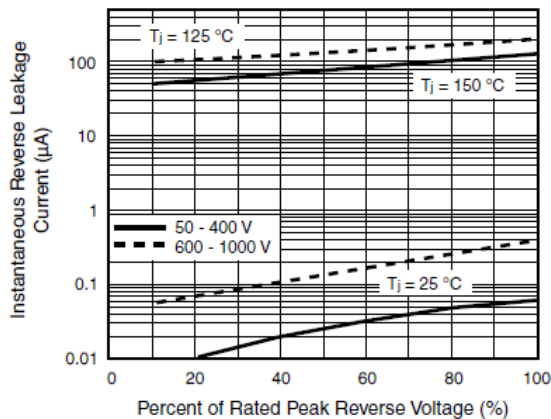


Figure 6. Typical Reverse Leakage Characteristics Per Diode

**Technical Data**  
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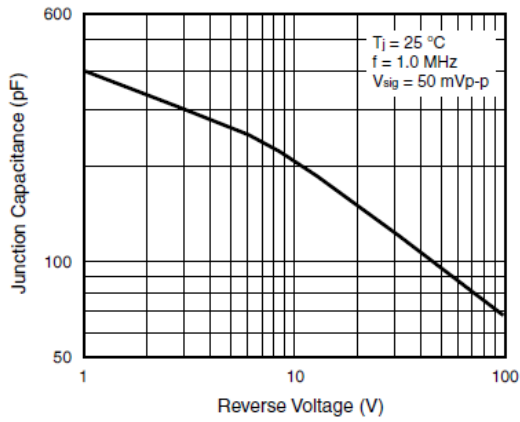


Figure 7. Typical Junction Capacitance Per Diode

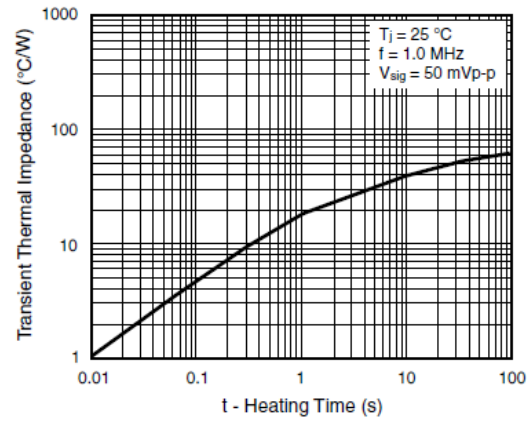


Figure 8. Typical Transient Thermal Impedance Per Diode



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