GBPC25005/W - GBPC2510/W

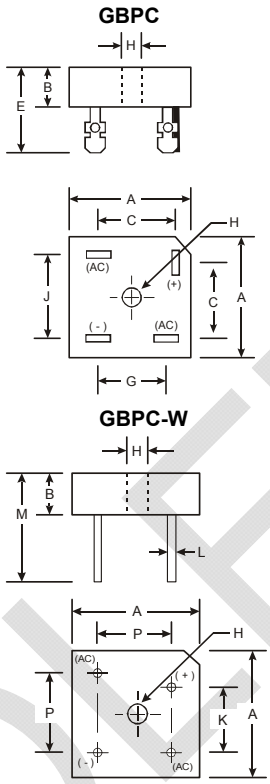
25A GLASS PASSIVATED BRIDGE RECTIFIER

Features

- Glass Passivated Die Construction
- Low Reverse Leakage Current
- Low Power Loss, High Efficiency
- Surge Overload Rating to 300A Peak
- Metal Base for Maximum Heat Dissipation
- Case to Terminal Isolation Voltage 1500V
- UL Listed Under Recognized Component Index, File Number E94661
- **Lead Free Finish, RoHS Compliant (Note 4)**

Mechanical Data

- Case: GBPC / GBPC-W
- Case Material: Molded Plastic with Heatsink Internally Mounted in the Bridge Encapsulation. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Finish — Silver. Plated Leads Solderable per MIL-STD-202, Method 208 e3
- Polarity: As Marked on Case
- Mounting: Through Hole for #10 Screw
- Mounting Torque: 8.0 Inch-pounds Maximum
- Ordering Information: See Page 3
- Marking: Type Number
- GBPC Weight: 20 grams (approximate)
- GBPC-W Weight: 14 grams (approximate)



GBPC / GBPC-W		
Dim	**Min**	**Max**
A	28.30	28.80
B	7.40	8.25
C	16.10	17.10
E	18.80	21.30
G	13.80	14.80
H	Hole for #10 screw	
	5.08∅	5.59∅
J	17.60	18.60
K	10.90	11.90
L	0.97∅	1.07∅
M	31.80	—
P	17.60	18.60
All Dimensions in mm		

"W" Suffix Designates Wire Leads
No Suffix Designates Faston Terminals

Maximum Ratings and Electrical Characteristics

@T_A = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Characteristic	Symbol	GBPC25 005/W	GBPC25 01/W	GBPC25 02/W	GBPC25 04/W	GBPC25 06/W	GBPC25 08/W	GBPC25 10/W	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	50	100	200	400	600	800	1000	V
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	280	420	560	700	V
Average Rectified Output Current @ T_C = 60°C	I_O	25							A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	300							A
Forward Voltage (per element) @ I_F = 12.5A	V_{FM}	1.1							V
Peak Reverse Current @ T_C = 25°C at Rated DC Blocking Voltage @ T_C = 125°C	I_R	5.0 500							μA
I^2t Rating for Fusing (Note 1)	I^2t	374							A^2s
Typical Total Capacitance (Note 2)	C_T	300							pF
Typical Thermal Resistance per Leg (Note 3)	$R_{\theta JC}$	1.3							°C/W
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +150							°C

Notes:
1. Non-repetitive, for t > 1.0ms and t < 8.3ms.
2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
3. Thermal resistance junction to case mounted on heatsink.
4. RoHS revision 13.2.2003. Glass and high temperature solder exemptions applied, see *EU Directive Annex Notes 5 and 7.*

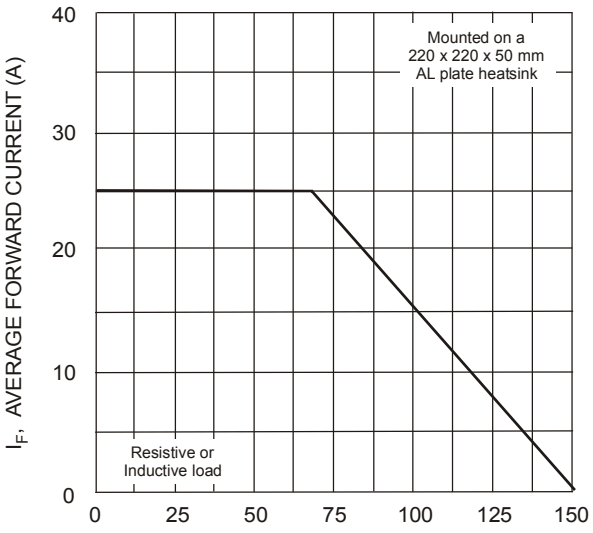


Fig. 1 Forward Current Derating Curve

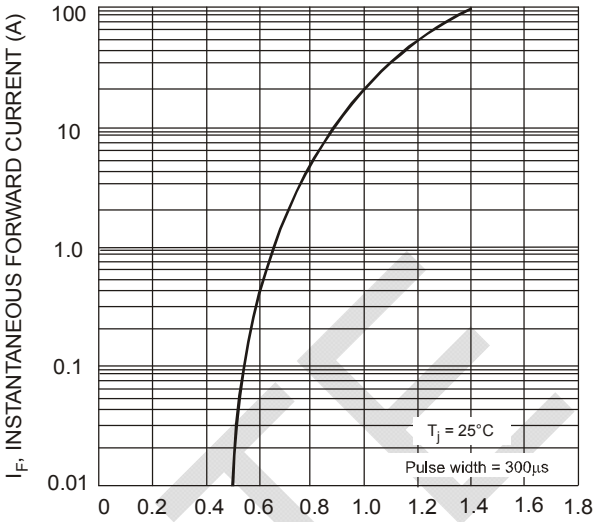


Fig. 2 Typical Forward Characteristics (per element)

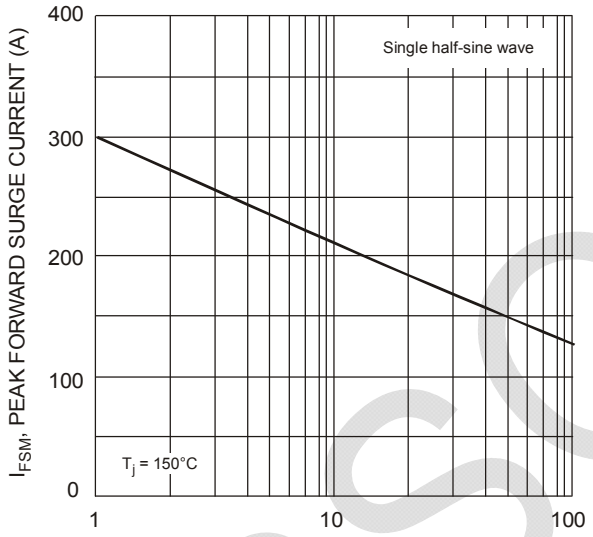


Fig. 3 Max Non-Repetitive Surge Current

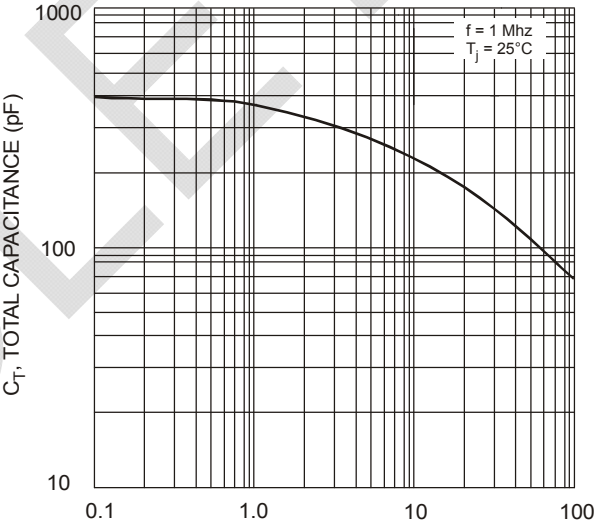


Fig. 4 Typical Total Capacitance (per element)

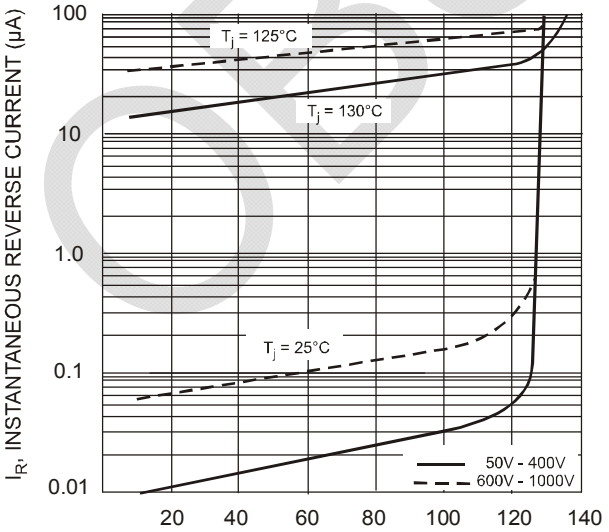


Fig. 5 Typical Reverse Characteristics (per element)

Ordering Information (Note 5)

Device	Packaging	Shipping
GBPC25005	GBPC	100/Tray
GBPC2501	GBPC	100/Tray
GBPC2502	GBPC	100/Tray
GBPC2504	GBPC	100/Tray
GBPC2506	GBPC	100/Tray
GBPC2508	GBPC	100/Tray
GBPC2510	GBPC	100/Tray
GBPC25005W	GBPC-W	100/Tray
GBPC2501W	GBPC-W	100/Tray
GBPC2502W	GBPC-W	100/Tray
GBPC2504W	GBPC-W	100/Tray
GBPC2506W	GBPC-W	100/Tray
GBPC2508W	GBPC-W	100/Tray
GBPC2510W	GBPC-W	100/Tray

Note: 5. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02008.pdf.