

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

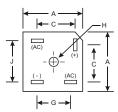
MIL-STD-202, Method 208 **(e3)** Polarity: As Marked on Case

Mounting: Through Hole for #10 Screw Mounting Torque: 8.0 Inch-pounds Maximum

Ordering Information: See Last Page

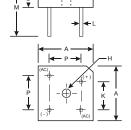
Marking: Type Number

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 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 P 17.60 18.60 All Dimensions in mm	GBPC / GBPC-W					
B 7.40 8.25 C 16.10 17.10 E 18.80 21.30 G 13.80 14.80 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	Dim	Min	Max			
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	Α	28.30	28.80			
E 18.80 21.30 G 13.80 14.80 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	В	7.40	8.25			
G 13.80 14.80 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	С	16.10 17.10				
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	E	18.80 21.30				
H 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	G	13.80	14.80			
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	н	Hole for #10 screw				
K 10.90 11.90 L 0.97 1.07 M 31.80 P 17.60 18.60		5.08	5.59			
L 0.97 1.07 M 31.80 P 17.60 18.60	J	17.60 18.60				
M 31.80 P 17.60 18.60	K	10.90	11.90			
P 17.60 18.60	L	0.97 1.07				
1 17.00	М	31.80				
All Dimensions in mm	Р	17.60	18.60			

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

Maximum Ratings and Electrical Characteristics @ T_A = 25 C unless otherwise specified

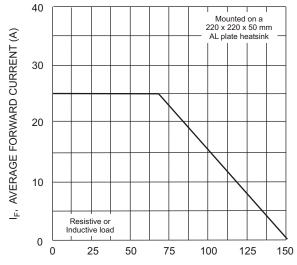
Single phase, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

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	٧
RMS Reverse Voltage		V _{R(RMS)}	35	70	140	280	420	560	700	V
Average Rectified Output Current	@ T _C = 60 C	Io				25				Α
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated		I _{FSM}	300					Α		
Forward Voltage (per element)	@ I _F = 12.5A	V _{FM}				1.1				V
Peak Reverse Current at Rated DC Blocking Voltage	@ T _C = 25 C @ T _C = 125 C	I _R				5.0 500				Α
I ² t Rating for Fusing	(Note 1)	I ² t				374				A ² s
Typical Total Capacitance	(Note 2)	C _T				300				pF
Typical Thermal Resistance per leg	(Note 3)	R _{JC}				1.3				°C/W
Operating and Storage Temperature Range		T _{j,} T _{STG}	-65 to +150					С		

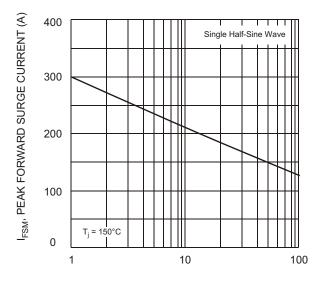
1. Non-repetitive, for t > 1.0ms and t < 8.3ms. Notes:

- 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.

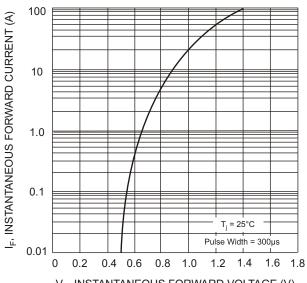




 $T_{\rm C}$, CASE TEMPERATURE (°C) Fig. 1 Forward Current Derating Curve



NUMBER OF CYCLES AT 60 Hz Fig. 3 Max Non-Repetitive Surge Current



V_F, INSTANTANEOUS FORWARD VOLTAGE (V) Fig. 2 Typical Forward Characteristics (per element)

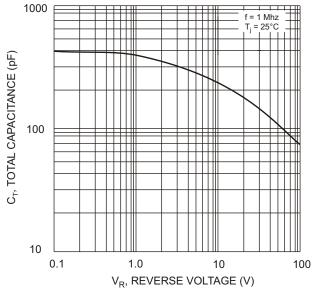


Fig. 4 Typical Total Capacitance (per element)

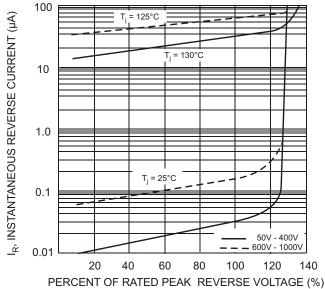


Fig. 5 Typical Reverse Characteristics (per element)



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			

Notes: 5. For packaging details, visit our website at http://www.diodes.com/datasheets/ap2008.pdf.

IMPORTANT NOTICE

Diodes Incorporated and its subsidiaries reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. Diodes Incorporated does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights, nor the rights of others. The user of products in such applications shall assume all risks of such use and will agree to hold Diodes Incorporated and all the companies whose products are represented on our website, harmless against all damages.

LIFE SUPPORT

Diodes Incorporated products are not authorized for use as critical components in life support devices or systems without the expressed written approval of the President of Diodes Incorporated.