GBP306-GBP310

3A STANDARD RECOVERY BRIDGE RECTIFIER

Product Summary

V_{RRM}(V)	I_F(A)	V_F Max (V) @ I_F = 1.5A	I_R Max (μA)
600, 800, 1000	3	1.05	5

Features

- Glass Passivated Die Construction
- Rating to 1000V PRV
- Ideal for printed circuit board
- Reliable construction utilizing molded plastic
- UL recognized file # E94661
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please contact us or your local Diodes representative. https://www.diodes.com/quality/product-definitions/**

Mechanical Data

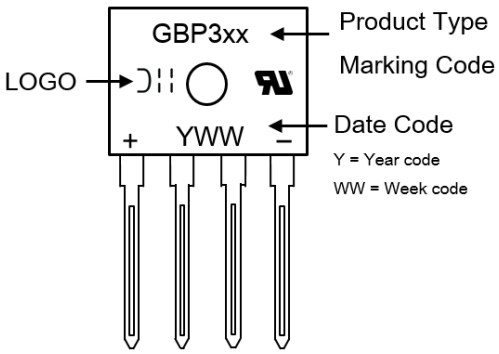
- Case: GBP
- Case Material: plastic material, UL flammability classification 94V-0.(No Br. Sb, Cl)
- Terminals: Finish – Matte Tin Plated Leads, Solderable per MIL-STD-202, Method 208 e3
- Polarity indicator: symbol molded on body.
- Weight: 1.33 grams (Approximate)

Ordering Information (Note 4)

Part Number	Qualification	Case	Packaging
GBP306	Commercial	GBP	35/Tube
GBP308	Commercial	GBP	35/Tube
GBP310	Commercial	GBP	35/Tube

Notes:
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
2. See https://www.diodes.com/quality/lead-free/ for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. For packaging details, go to our website at https://www.diodes.com/design/support/packaging/diodes-packaging/.

Marking Information



Maximum Ratings (@ T_A = +25°C, unless otherwise specified.)

Characteristic		Symbol	GBP306	GBP308	GBP310	Unit
Maximum repetitive peak reverse voltage		V_{RRM}	600	800	1000	V
Maximum DC blocking voltage		V_{DC}	600	800	1000	V
Maximum average rectified output current @T_C = +100°C	with heatsink without heatsink	$I_{F(AV)}$	3.0 1.8			A
Peak forward surge current 8.3ms single half sine wave superimposed on rated load.	T_J = +25°C T_J = +125°C	I_{FSM}	90 72			A
Peak forward surge current 1.0ms single half sine wave superimposed on rated load.	T_J = +25°C T_J = +125°C	I_{FSM}	200 160			A
I^2t rating for fusing (t = 8.3ms)		I^2t	33			A^2S
Operating temperature range		T_J	-55 to + 150			°C
Storage temperature range		T_{STG}	-55 to + 150			°C

Electrical Characteristics

Characteristic	Test Conditions		Symbol	Max	Unit
Forward voltage	I_F = 1.5A	T_J = +25°C	V_F	1.05	V
Leakage current	V_R at Rated	T_J = +25°C T_J = +125°C	I_R	5 500	μA
Typical junction capacitance (Note 5)			C_J	25	pF

Thermal Characteristics

Characteristic	Symbol	Typ.	Unit
Typical thermal resistance (Note 6)	$RthJ_C$ $RthJ_L$ $RthJ_A$	9 9 20	°C/W

Notes: 5. Measured at 1.0MH_Z and applied reverse voltage of 4.0V DC.
6. Thermal resistance junction to case, lead and ambient. Device mounted on 30mm x 30mm x 1mm Cu plate heatsink.

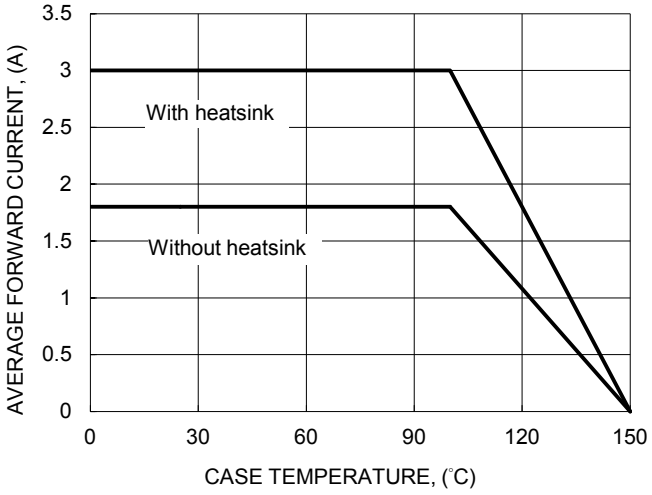


Figure 1. Forward Current Derating Curve

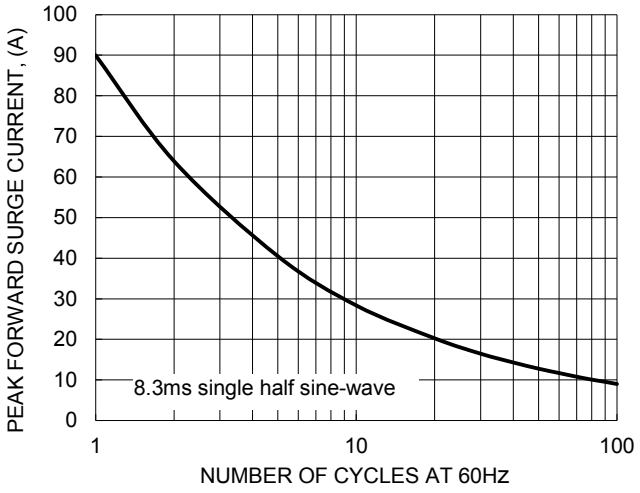


Figure 2. Maximum Non-repetitive Surge Current

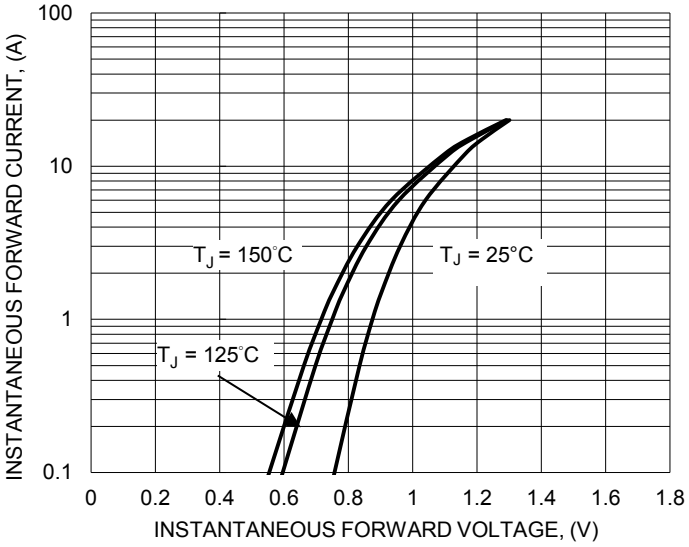


Figure 3. Typical Forward Characteristics

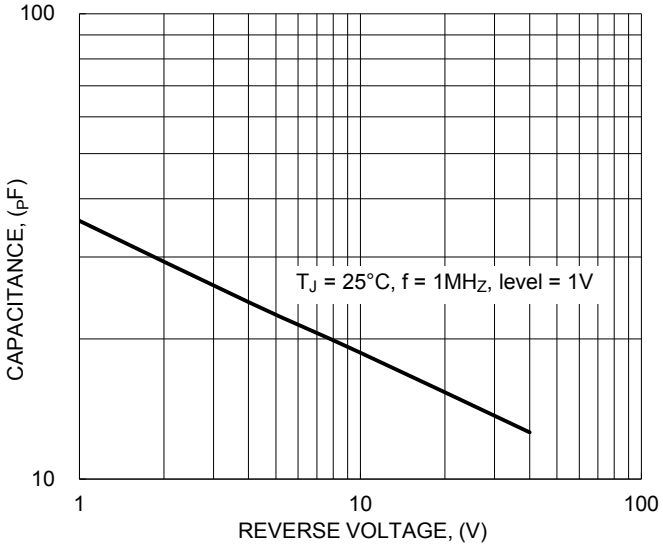


Figure 4. Typcial Junction Capacitance

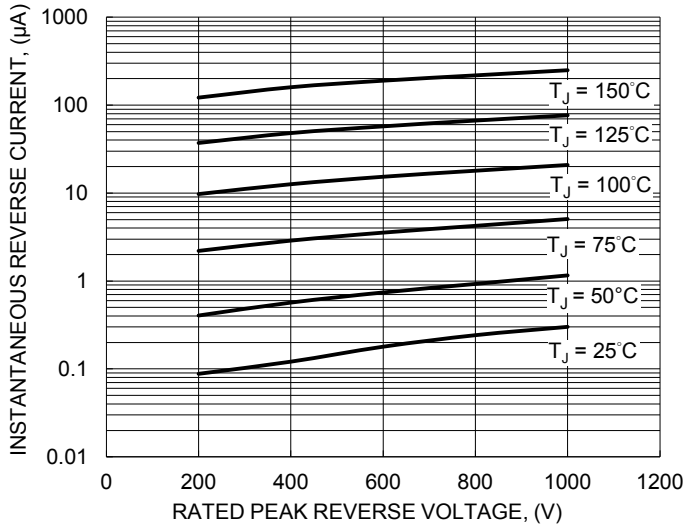


Figure 5. Typical Reverse Characteristics

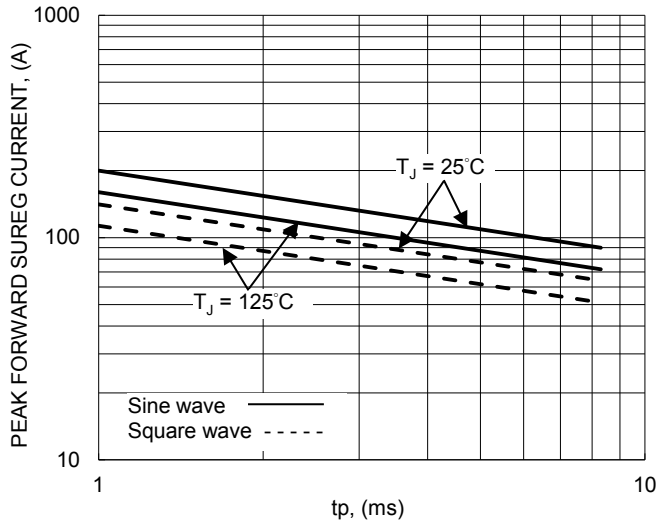
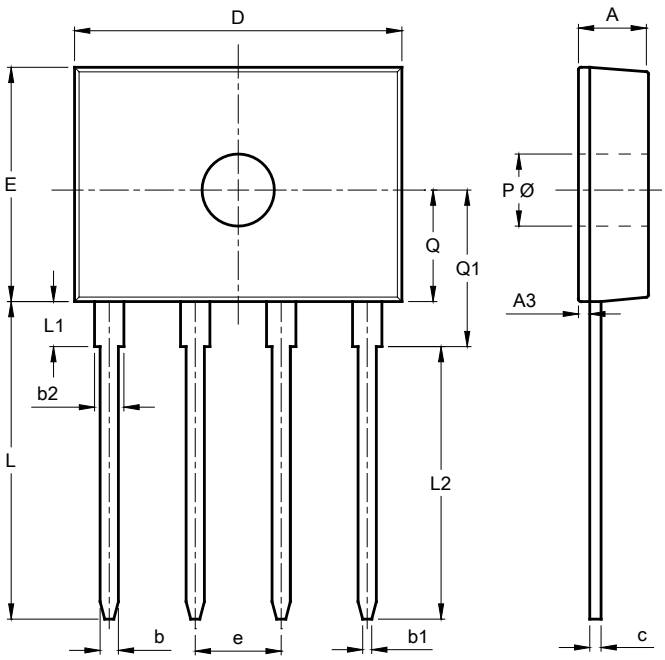


Figure 6. Non-repetitive Surge Current

Package Outline Dimensions

Please see http://www.diodes.com/package-outlines.html for the latest version.



GBP			
Dim	**Min**	**Max**	**TYP**
A	2.90	3.30	3.10
A3	0.30	0.70	0.50
b	0.76	0.86	0.81
b1	0.35	0.45	0.40
b2	1.20	1.40	1.30
c	0.40	0.60	0.50
D	14.20	14.70	14.50
E	10.10	10.70	10.40
e	3.71	3.91	3.81
L	13.80	14.40	14.10
L1	1.80	2.20	2.00
L2	12.10 REF		
PØ	3.20 REF		
Q	4.65	5.25	4.95
Q1	6.65	7.25	6.95
All Dimensions in mm			

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