Product Summary

V_{RRM} (V)	I_F (A)	V_F Max (V) @I_F = 3A	I_R Max (µA)
600	6	0.90	5

Features

- Glass Passivated Die Construction
- Low-Forward Voltage Drop
- Ideal for Printed Circuit Board
- Reliable Low-Cost Construction Utilizing Molded Plastic
- UL Recognized File # E95060
- **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-Q100/101/104/200, 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

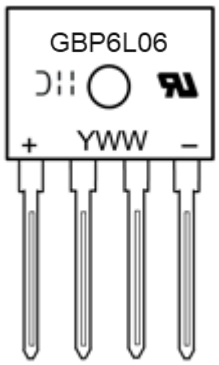
- Package: GBP
- Package Material: Plastic Material, UL Flammability Classification 94V-0. (No Br. Sb, Cl)
- Terminals: Finish – Matte Tin Plated Leads, Solderable per MIL-STD-202, Method 208 e3
- Polarity Indicator: Symbol Molded on Body
- Weight: 1.33 grams (Approximate)

Ordering Information (Note 4)

Part Number	Package	Packing	
		Qty.	Carrier
GBP6L06-TU	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



GBP6L06 = Product Type Marking Code
= Manufacturer's Code Marking
YWW = Date Code Marking
Y = Last Digit of Year (ex: 3 = 2023)
WW = Week Code (01 to 53)

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

Characteristic		Symbol	Value	Unit
Maximum Repetitive Peak Reverse Voltage		V_{RRM}	600	V
Maximum Average Rectified Output Current @ T_J = +150°C	With Heatsink Without Heatsink	$I_{F(AV)}$	6.0 2.3	A
Peak Forward Surge Current 8.3ms Single Half Sine Wave Superimposed on Rated Load		I_{FSM}	135	A
Peak Forward Surge Current 1.0ms Single Half Sine Wave Superimposed on Rated Load			270	A
I^2t Rating for Fusing (t = 8.3ms)		I^2t	75.6	A^2s
Operating Temperature Range		T_J	-55 to +150	°C
Storage Temperature Range		T_{STG}	-55 to +150	°C

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Test Conditions		Symbol	Min	Typ	Max	Unit
Breakdown Voltage	I_R = 5μA, T_J = +25°C		V_B	600	—	—	V
Forward Voltage	I_F = 3A, T_J = +25°C		V_F	—	0.84	0.9	V
Leakage Current	V_R = 600V	T_J = +25°C T_J = +125°C	I_R	—	—	5.0 500	μA
Typical Junction Capacitance (Note 5)	—		C_T	75			pF

Thermal Characteristics

Characteristic	Symbol	Typ	Unit
Typical Thermal Resistance (Without Heatsink)	$R_{\theta JC}$ $R_{\theta JL}$ $R_{\theta JA}$	12 18 45	°C/W
Typical Thermal Resistance (Notes 6 & 7)	$R_{\theta JC}$ $R_{\theta JL}$ $R_{\theta JA}$	5 7 16	°C/W

Notes: 5. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
6. Thermal resistance junction to case, lead and ambient in accordance with JESD-51.
7. Device mounted on 100mm × 100mm × 1.6mm Cu plate heatsink.

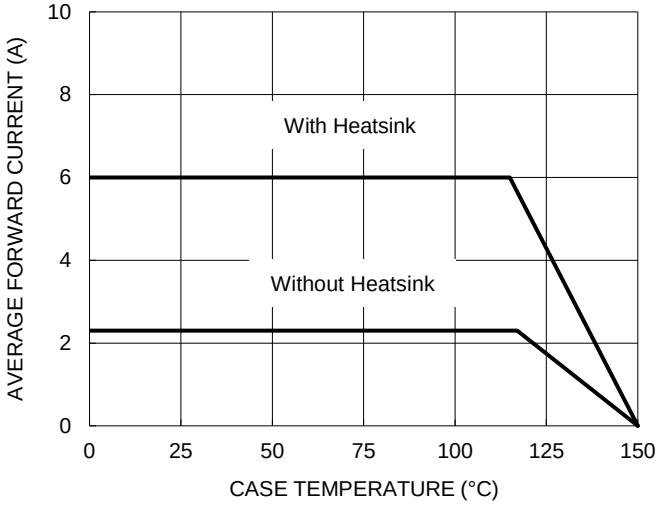


Figure 1. Forward Current Derating Curve

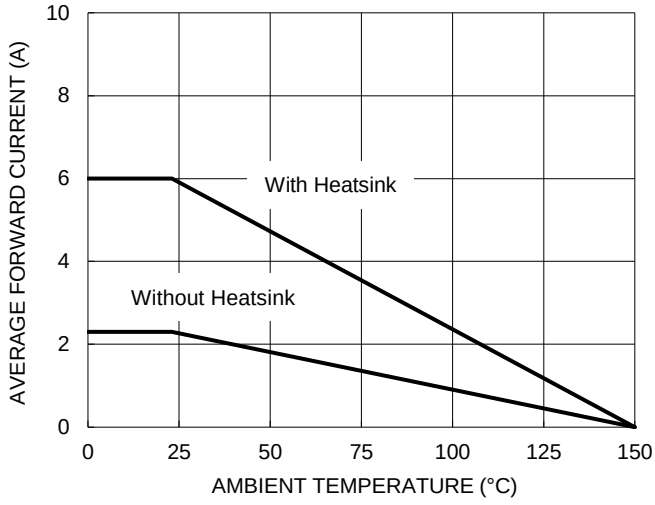


Figure 2. Forward Current Derating Curve

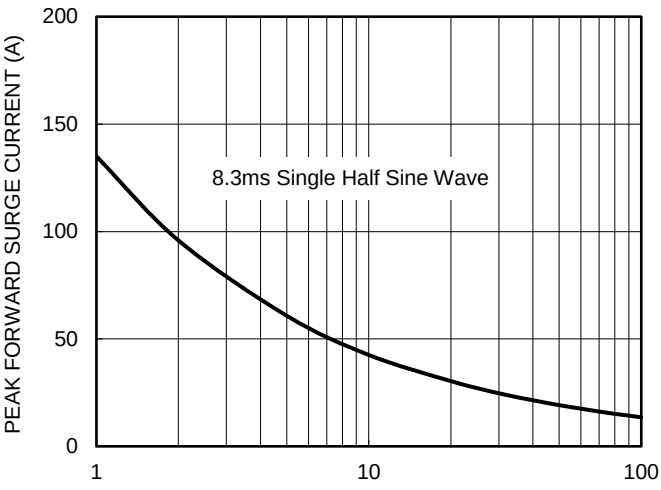


Figure 3. Maximum Non-Repetitive Surge Current

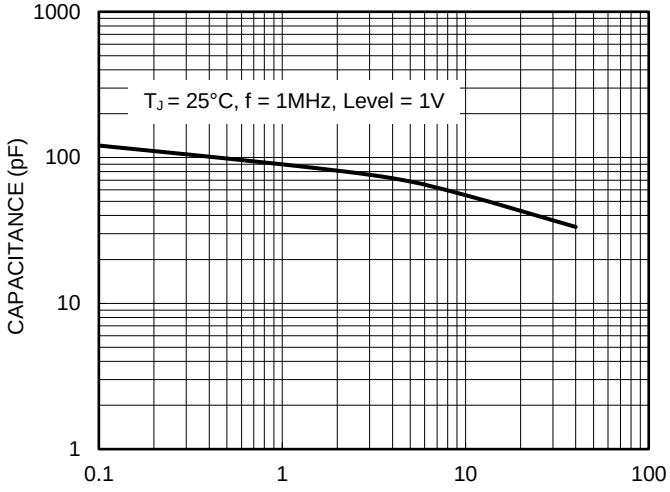


Figure 4. Typical Junction Capacitance

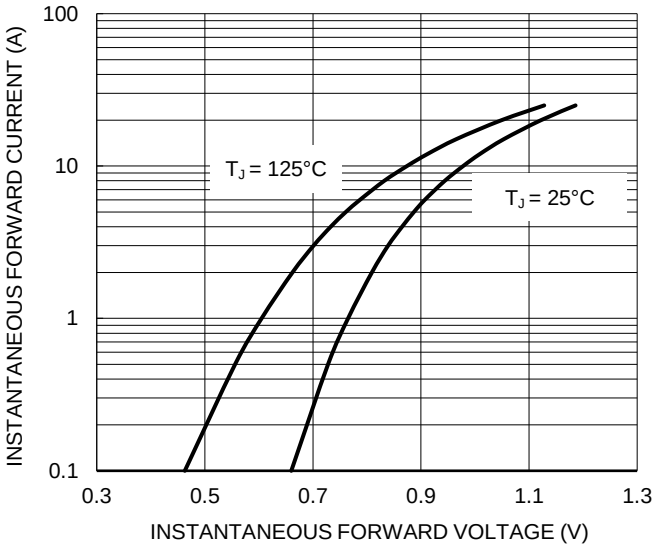


Figure 5. Typical Forward Characteristics

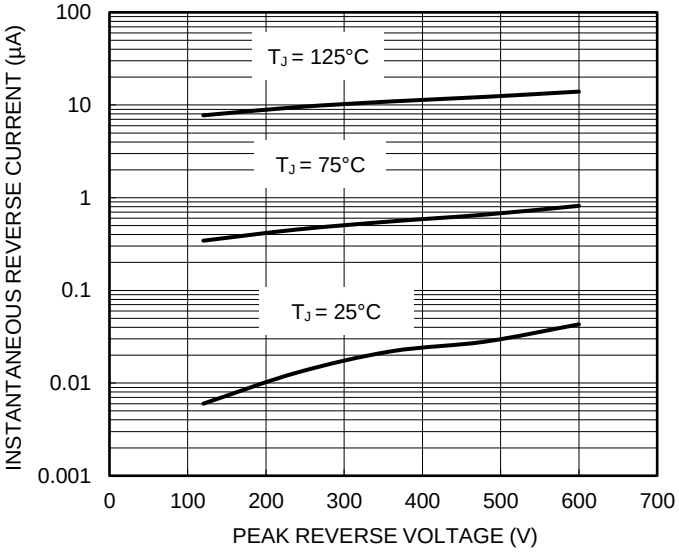
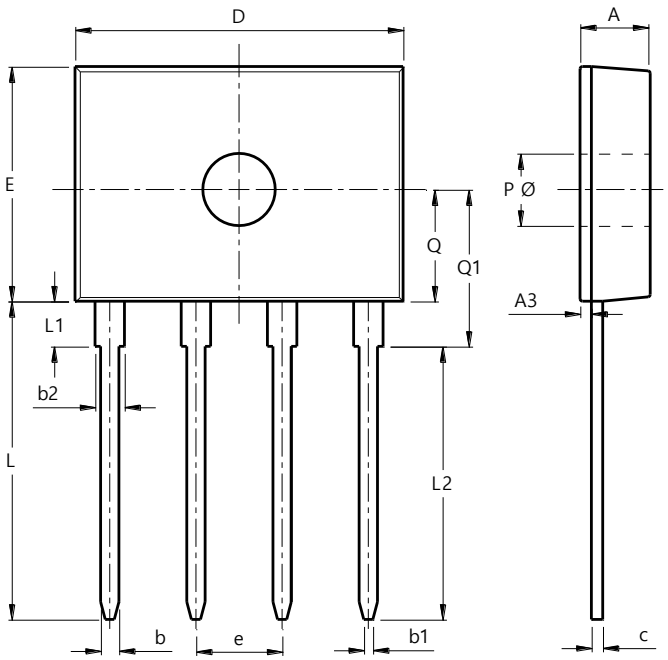


Figure 6. Typical Reverse Characteristics

Package Outline Dimensions

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

GBP



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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