35A SINGLE-PHASE STANDARD RECOVERY BRIDGE RECTIFIER

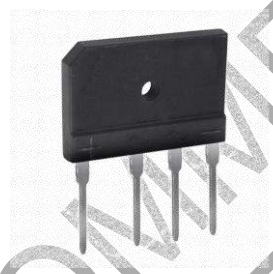
Features

- Glass Passivated Die Construction
- High Case Dielectric Strength of 2500V_{RMS}
- Low Forward Voltage Drop
- Low Reverse Leakage Current
- Surge Overload Rating to 400A Peak
- Ideal for Printed Circuit Board Applications
- **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: GBJ
- Package Material: Molded Plastic. UL Flammability Classification 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Lead Free Tin Plated Leads (Matte Tin Finish), Solderable per MIL-STD-202, Method 208 e3
- Polarity: Molded on Body
- Mounting: Through Hole for #6 Screw
- Mounting Torque: 5.0 in-lbs Maximum
- Weight: 6.6 grams (Approximate)

GBJ

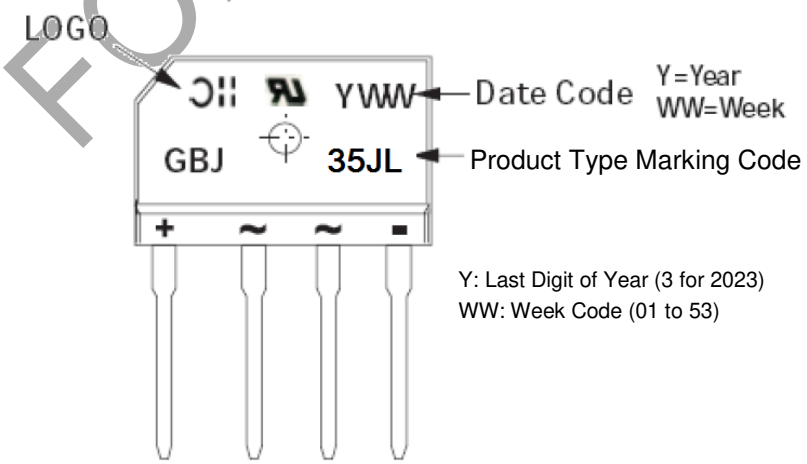


Ordering Information (Note 4)

Part Number	Package	Packing	
		Qty.	Carrier
GBJ35JL-F	GBJ	15	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



Y: Last Digit of Year (3 for 2023)
WW: Week Code (01 to 53)

Maximum Ratings (@ 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	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage		V_{RRM} V_{RWM} V_R	600	V
RMS Reverse Voltage		$V_{R(RMS)}$	420	V
Average Forward Rectified Output Current (Note 5)	With Heatsink T_C = +80°C Without Heatsink T_C = +25°C	I_O	35 4.7	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	@ T_J = +25°C @ T_J = +125°C	I_{FSM}	400 320	A
Non-Repetitive Peak Forward Surge Current 1.0ms Single Half Sine-Wave Superimposed on Rated Load	@ T_J = +25°C @ T_J = +125°C	I_{FSM}	800 640	A
I^2t Rating for Fusing (3ms < t < 8.3ms) (Note 5)		I^2t	664	A^2s
Mounting Torque (Recommended Torque: 0.5N.m)		TOR	0.8	N.m

Thermal Characteristics

Characteristic		Symbol	Value	Unit
Typical Thermal Resistance Junction to Case	(Note 6)	$R_{\theta JC}$	4	°C/W
Typical Thermal Resistance Junction to Lead	(Note 6)	$R_{\theta JL}$	10	°C/W
Typical Thermal Resistance Junction to Ambient	(Note 6)	$R_{\theta JA}$	20	°C/W
Typical Thermal Resistance Junction to Case	(Note 7)	$R_{\theta JC}$	1.0	°C/W
Typical Thermal Resistance Junction to Lead	(Note 7)	$R_{\theta JL}$	2	°C/W
Typical Thermal Resistance Junction to Ambient	(Note 7)	$R_{\theta JA}$	2	°C/W
Operating and Storage Temperature Range		T_J, T_{STG}	-55 to +150	°C

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Breakdown Voltage	V_R	600	—	—	V	I_R = 10μA
Forward Voltage (Per Element)	V_F	—	0.86	0.92	V	I_F = 17.5A, T_S = +25°C
Reverse Leakage Current (Per Element)	I_R	—	—	10	μA	V_R = 600V, T_J = +25°C
Total Capacitance (Per Element)	C_T	—	240	—	pF	f = 1MHz, V_R = 4Vdc

Notes: 5. Non-repetitive, for t > 1ms and < 8.3ms.
6. Thermal resistance per element without heatsink.
7. Thermal resistance from junction to case per element. Unit mounted on 250mm x 250mm x 25mm aluminum plate heat sink.

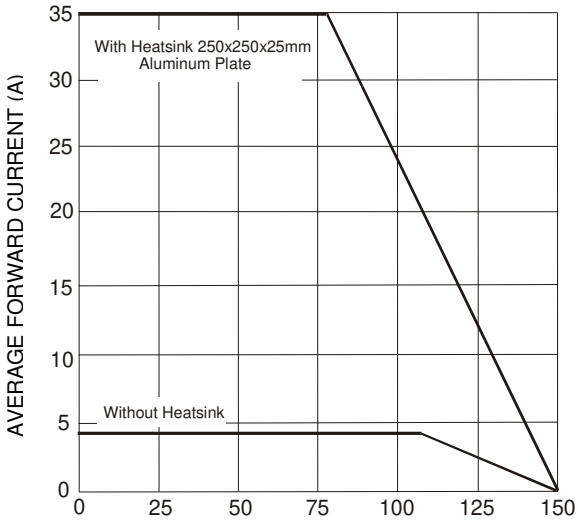


Fig. 1 Forward Current Derating Curve

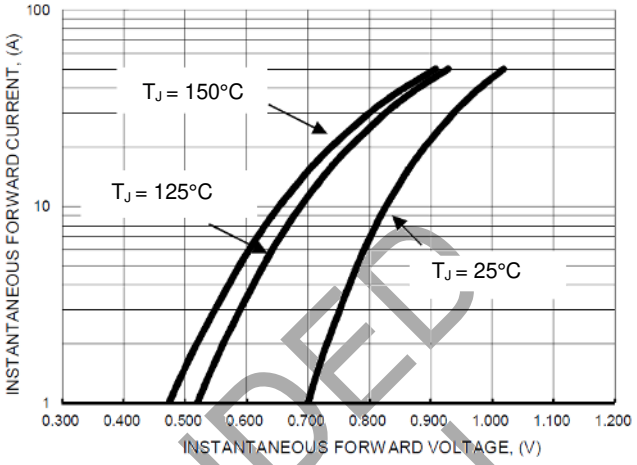


Fig. 2 Typical Forward Characteristics

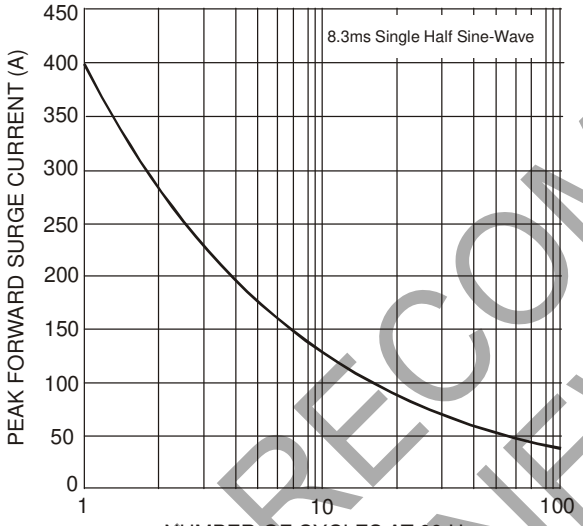


Fig. 3 Maximum Non-Repetitive Surge Current

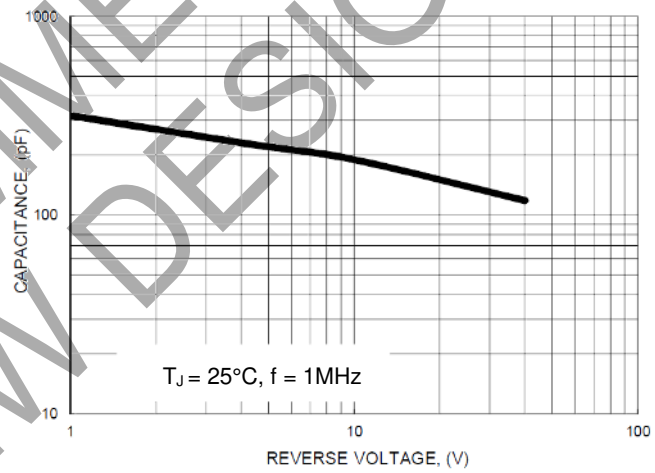


Fig. 4 Typical Junction Capacitance

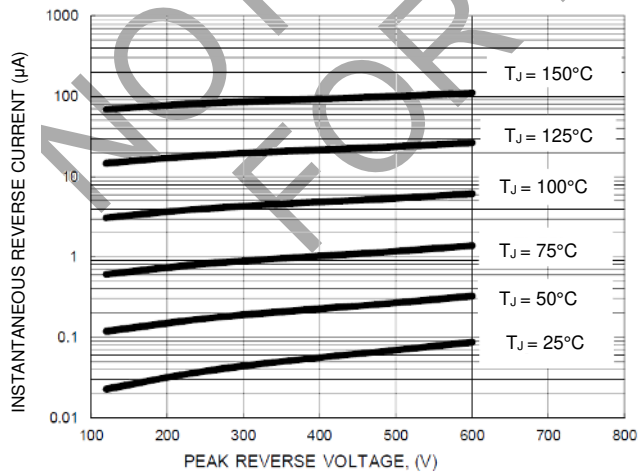
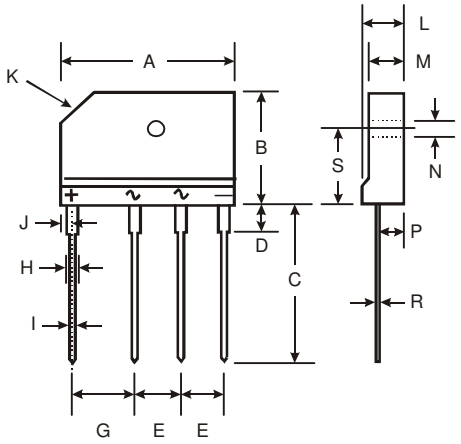


Fig. 5 Typical Reverse Characteristics

Package Outline Dimensions

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

GBJ



GBJ		
Dim	**Min**	**Max**
A	29.70	30.30
B	19.70	20.30
C	17.00	18.00
D	3.80	4.20
E	7.30	7.70
G	9.80	10.20
H	2.00	2.40
I	0.90	1.10
J	2.30	2.70
K	3.0 X 45°	
L	4.40	4.80
M	3.40	3.80
N	3.10	3.40
P	2.50	2.90
R	0.60	0.80
S	10.80	11.20
All Dimensions in mm		

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