

### Features

- Glass Passivated Die Construction
- High Case Dielectric Strength of 2500V<sub>RMS</sub>
- Low Reverse Leakage Current
- Surge Overload Rating to 350A Peak
- Ideal for Printed Circuit Board Applications
- UL Listed Under Recognized Component Index, File Number E94661
- **Lead Free Finish/RoHS Compliant (Note 4)**

### Mechanical Data

- Case: GBJ
- Case Material: Molded Plastic. UL Flammability Classification 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Plated Leads, Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Tin Finish).
- Polarity: Molded on Body
- Mounting: Through Hole for #6 Screw
- Mounting Torque: 5.0 in-lbs Maximum
- Marking: Type Number
- Weight: 6.6 grams (approximate)

### Maximum Ratings @T<sub>A</sub> = 25°C unless otherwise specified

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

Characteristic	Symbol	GBJ 25005	GBJ 2501	GBJ 2502	GBJ 2504	GBJ 2506	GBJ 2508	GBJ 2510	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>								
Working Peak Reverse Voltage	V <sub>RWM</sub>	50	100	200	400	600	800	1000	V
DC Blocking Voltage	V <sub>R</sub>								
RMS Reverse Voltage	V <sub>R(RMS)</sub>	35	70	140	280	420	560	700	V
Average Forward Rectified Output Current (Note 1)	I <sub>o</sub>	25							A
Non-Repetitive Peak Forward Surge Current 8.3 ms Single Half Sine-Wave Superimposed on rated Load	I <sub>FSM</sub>	350							A

### Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Case (Note 3)	R <sub>θJC</sub>	0.6	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150	°C

### Electrical Characteristics @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Forward Voltage (per element) @ I <sub>F</sub> = 12.5A	V <sub>FM</sub>	1.05	V
Peak Reverse Current @ T <sub>C</sub> = 25°C	I <sub>R</sub>	10	μA
at Rated DC Blocking Voltage @ T <sub>C</sub> = 125°C		500	
I <sup>2</sup> t Rating for Fusing (t < 8.3ms) (Note 1)	I <sup>2</sup> t	510	A <sup>2</sup> s
Typical Total Capacitance (per element) (Note 2)	C <sub>T</sub>	85	pF

- Notes:
1. Non-repetitive, for t > 1ms and < 8.3 ms.
  2. Measured at 1.0 MHz and applied reverse voltage of 4.0V DC.
  3. Thermal resistance from junction to case per element. Unit mounted on 220 x 220 x 1.6mm aluminum plate heat sink.
  4. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied. Please visit our website at [http://www.diodes.com/products/lead\\_free.html](http://www.diodes.com/products/lead_free.html).



Fig. 1 Forward Current Derating Curve

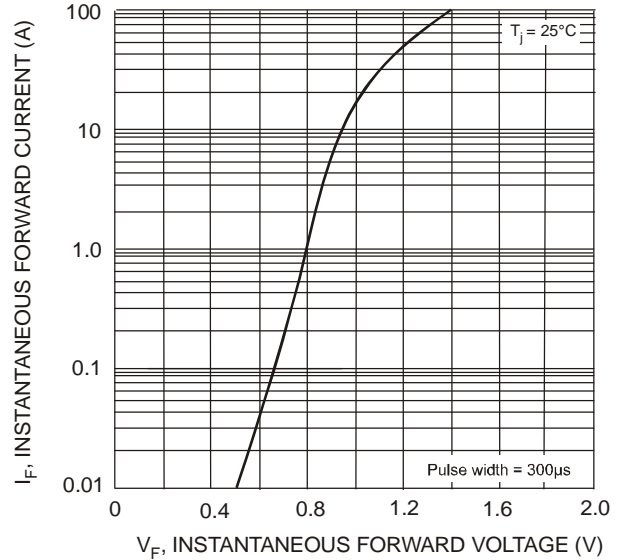


Fig. 2 Typical Forward Characteristics (per element)

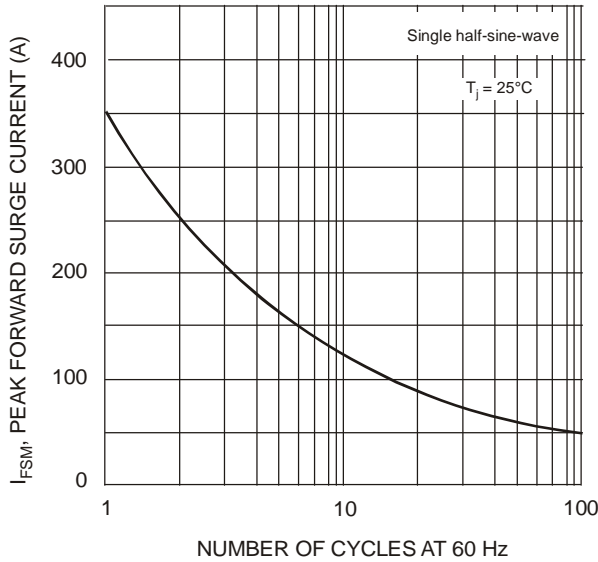


Fig. 3 Maximum Non-Repetitive Surge Current



Fig. 4 Typical Total Capacitance, Per Element

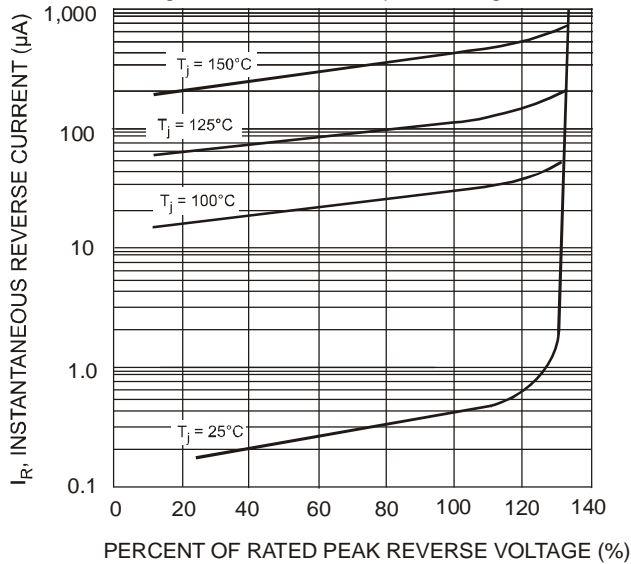


Fig. 5 Typical Reverse Characteristics

**Ordering Information** (Note 5)

Part Number	Case	Packaging
GBJ25005-F	GBJ	15/Tube
GBJ2501-F	GBJ	15/Tube
GBJ2502-F	GBJ	15/Tube
GBJ2504-F	GBJ	15/Tube
GBJ2506-F	GBJ	15/Tube
GBJ2508-F	GBJ	15/Tube
GBJ2510-F	GBJ	15/Tube

Notes: 5. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

**Package Outline Dimensions**



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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