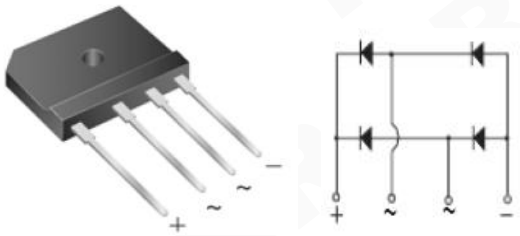
TRR®

GBJ2002~GBJ2010

Glass Passivated Single-Phase Bridge Rectifier

Features

- Ideal for printed circuit board
- Glass passivated chip junction
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- High temperature soldering：
  260℃/10 seconds at terminals



Mechanical Date

- Case: GBJ Molded plastic
  over glass passivated chip
- **Terminals:**Plated leads solderable per
  MIL-STD-750,Method 2026
- **Polarity:** Polarity symbols marked on body

Major Ratings and Characteristics

$I_{F(AV)}$	**20 A**
V_{RRM}	**200V to 1000V**
I_{FSM}	**280A**
I_R	**5 μA**
V_F	**1.1 V**
T_j **max.**	**150 °C**

Maximum Ratings & Thermal Characteristics

(T_A = 25 °C unless otherwise noted)

Items	Symbol	GBJ 2002	GBJ 2004	GBJ 2006	GBJ 2008	GBJ 2010	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	200	400	600	800	1000	V
Maximum average forward rectified current at T_C=90℃	$I_{F(AV)}$	20.0					A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	280					A
Thermal resistance from junction to case per leg	$R_{\theta JC}$ (1)	1.5					℃/W
I^2t Rating for Fusing (t<8.3ms)	I^2t	325					A^2s
RMS isolation voltage from case to leads	V_{ISO}	2500					V
Operating junction and storage temperature range	T_J , T_{STG}	–55 to +150					℃

Note 1: Junction to case with heatsink

Electrical Characteristics

(T_A = 25 °C unless otherwise noted)

Items	Test conditions		Symbol	Min	Type	Max	UNIT
Instantaneous forward voltage per leg	I_F=10A		V_F	-	-	1.10	V
Reverse current per leg	V_R=V_{DC}	T_j=25℃ T_j=125℃	I_R	-	-	5 500	μA

Characteristic Curves (T_A=25 ℃ unless otherwise noted)

Fig.1 Forward Current Derating Curve

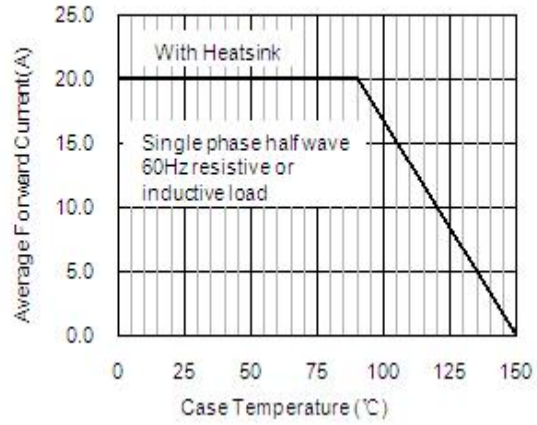


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current

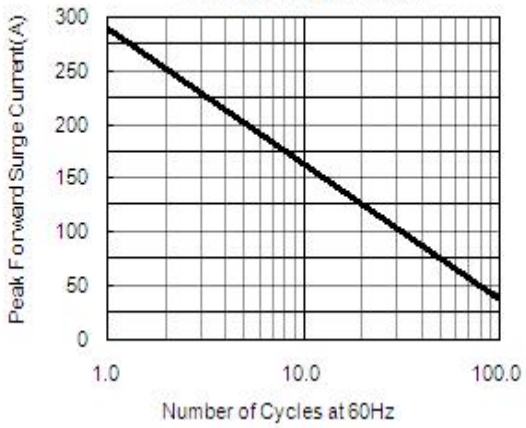


Fig.3 Typical Instantaneous Forward Characteristics

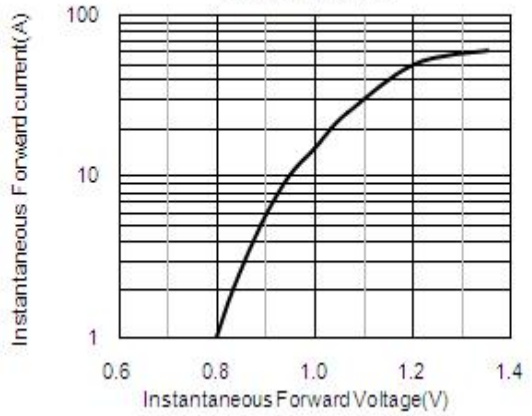


Fig.4 Typical Reverse Leakage Characteristics

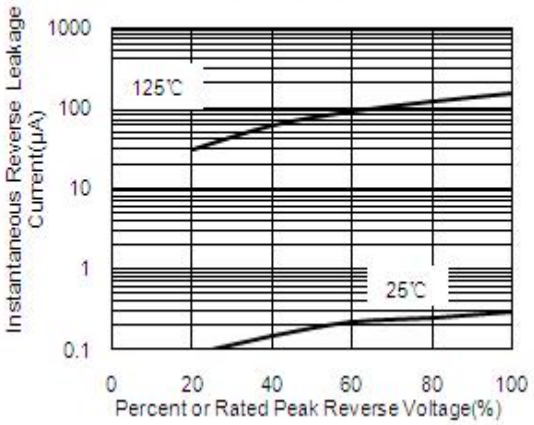
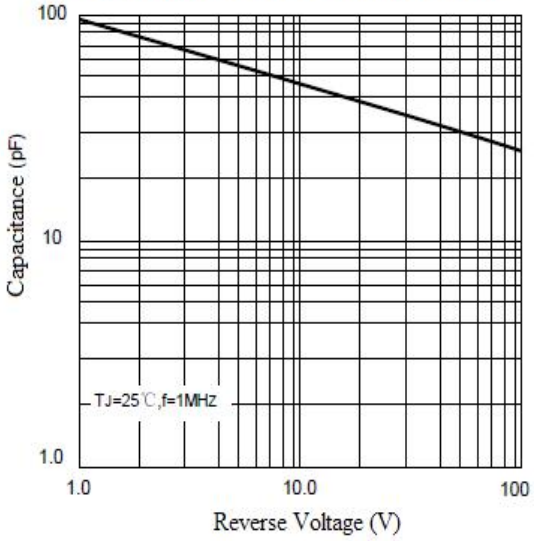
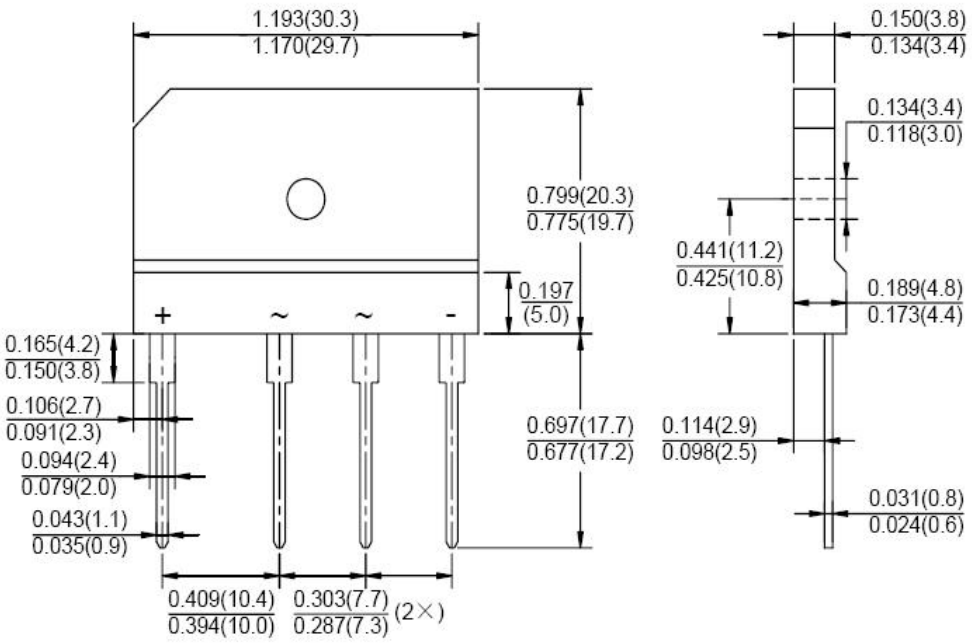


Fig.5 Typical Junction Capacitance



Package Outline



Dimensions in inches (mm)

Notice

- Product is intended for use in general electronics applications.
- Product should be worked less than the ratings; if exceeded, may cause permanent damage.or introduce latent failure mechanisms.
- The absolute maximum ratings are rated values and must not be exceeded during operation. The following are the general derating methods you design a circuit with a device.
  $I_{F(AV)}$: We recommend that the worst case current be no greater than 80% .
  T_J : Derate this rating when using a device in order to ensure high reliability. We recommend that the device be used at a T_J of below 100°C.

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