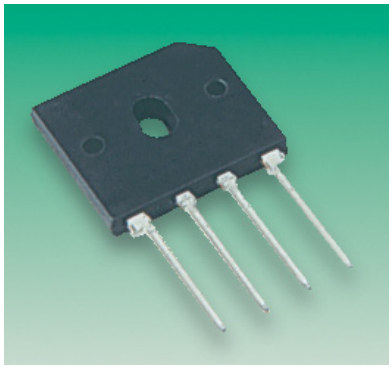
GBU4 Series

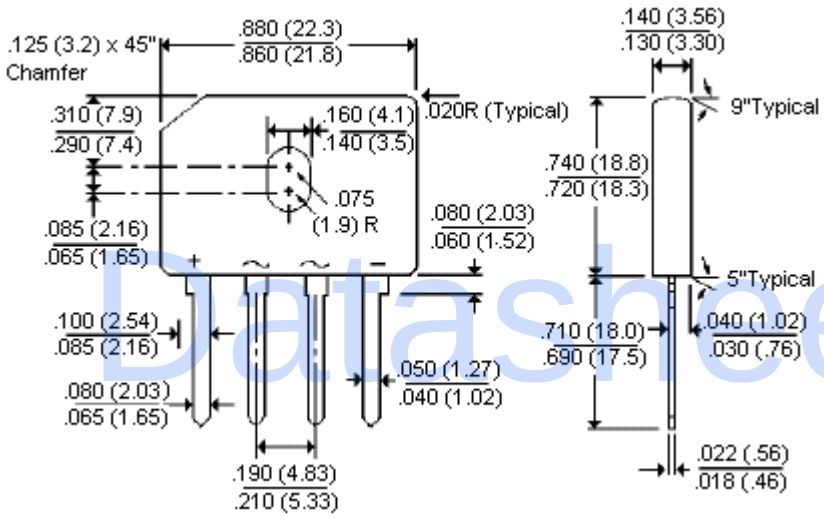
Single Phase Bridge Rectifier



Features:

- Glass passivated single phase brifge rectifier device offering greater reliability at higher operating temperatures and improved moisture resistance capability.
- High case dielectric strength of 1500V_{RMS}.
- Ideal for printed circuit board.
- Glasss passivated chip junction.
- High surge current capability.
- Surge overload rating : 150 Amperes peak.
- High temperature soldering guaranteed : 260°C/10 seconds, 0.375” (9.5mm) lead length at 5lbs (2.3kg) tension.

GBU



Polarity shown on front side of case, positive lead by beveled comer

Dimensions : Inches (Millimetres)

Mechanical Data:

Case :

GBU4A - Moulded plastic body over passivated junctions.

GBU4B, GBU4D, GBU4J, GBU4K - Reliable low cost construction utilizing moulded plastic technique.

Terminals :

GBU4A - Plated leads solderable per MIL-STD-750, Method 2026.

GBU4B, GBU4D, GBU4J, GBU4K - Leads solderable per MIL-STD-202, Method 208.

Mounting position : Any (Note 4).

Mounting torque : 5 in. lb. Maximum.

Weight : 0.15 ounce, 4.0 grams.

Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

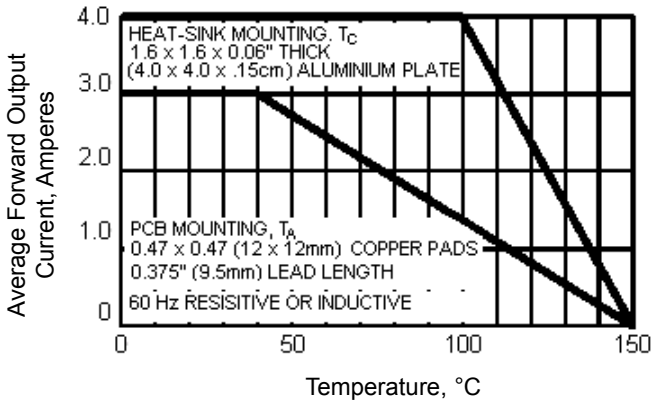
Parameter	Symbols	GBU4A	GBU4B	GBU4D	GBU4J	GBU4K	Units
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	600	800	Volts
Maximum RMS input voltage	V_{RMS}	35	70	140	420	560	
Maximum DC blocking voltage	V dc	50	100	200	600	800	
Maximum average forward rectified output current at T_C = 100°C (Note 1) T_C = 40°C (Note 2)	$I_{(AV)}$	4.0 3.0					Amps
Peak forward surge current single sine-wave superimposed on rated load (JEDEC Method) T_J = 150°C	I_{FSM}	150					
Rating for fusing (t<8.3ms)	I^2t	93					A^2 seconds
Maximum instantaneous forward voltage drop per leg at 8.0A	V_F	1.0					Volts
Maximum DC reverse at rated T_A = 25°C DC blocking voltage per leg T_A = 100°C	I_R	5 500					µA
Typical junction capacitance (Note 3)	C_J	100			45		pF
Typical thermal resistance per leg (Note 1) (Note 2) - **GBU4A** (Note 2) - **GBU4B/D/J/K** (Note 3) (Note 4)	RθJC RθJA RθJA RθJL RθJA	4.2 22.0 19.0 4 21.0					°C/W
Operating and Storage temperature range	T_J, T_{STG}	-55 to +150					°C

Notes:

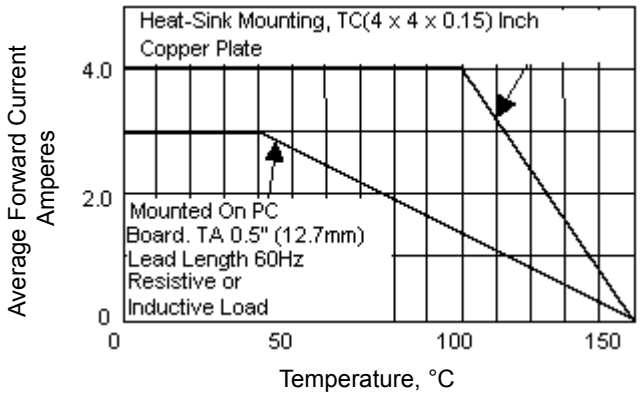
1. Units case mounted on 1.6 x 1.6 x 0.06” thick (4.0 x 4.0 x 0.15cm) Aluminium plate - **GBU4A.**
   Units mounted on 2.0 x 1.6 x 0.3” thick (5 x 4 x 0.8cm) Aluminium plate - **GBU4B, GBU4D, GBU4J, GBU8K.**
2. Measured at 1.0MHz and applied reverse voltage of 4.0 Volts.
3. Recommended mounting position is to bolt down on to a heatsink with silicone thermal compound for maximum heat transfer with number 6 screw.
4. Units mounted in free air, no heatsink on PCB, 0.5 x 0.5” (12 x 12mm) copper pads, at 0.375” (9.5mm) lead length.

Rating and Characteristics Curves

Figure 1 - Derating Curve for Output Rectified Current

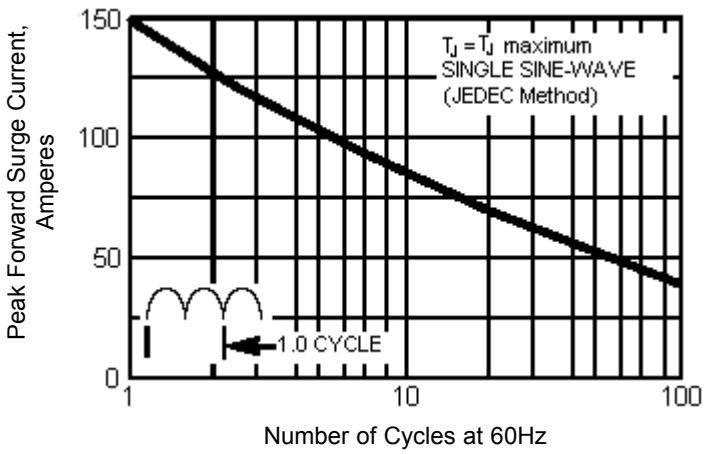


GBU4A

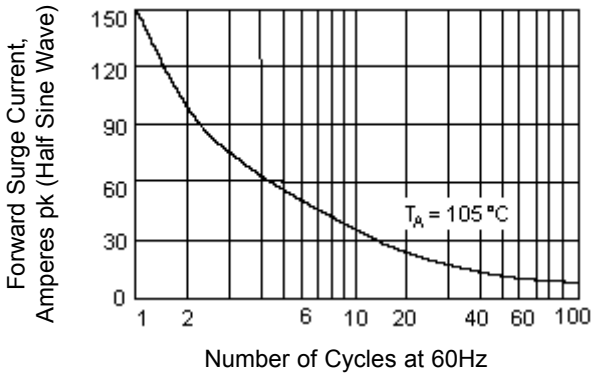


GBU4B, GBU4D, GBU4J, GBU4K

Figure 2 - Maximum Non-Repetitive Peak Forward Surge Current per Leg

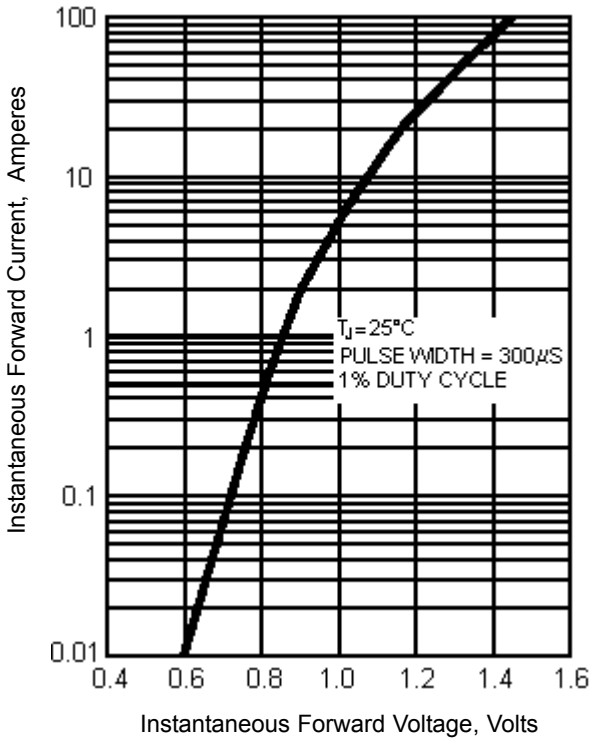


GBU4A

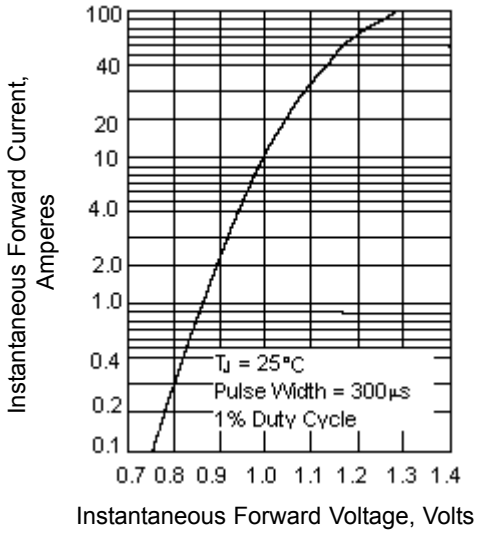


GBU4B, GBU4D, GBU4J, GBU4K

Figure 3 - Typical Instantaneous Forward Characteristics per Element

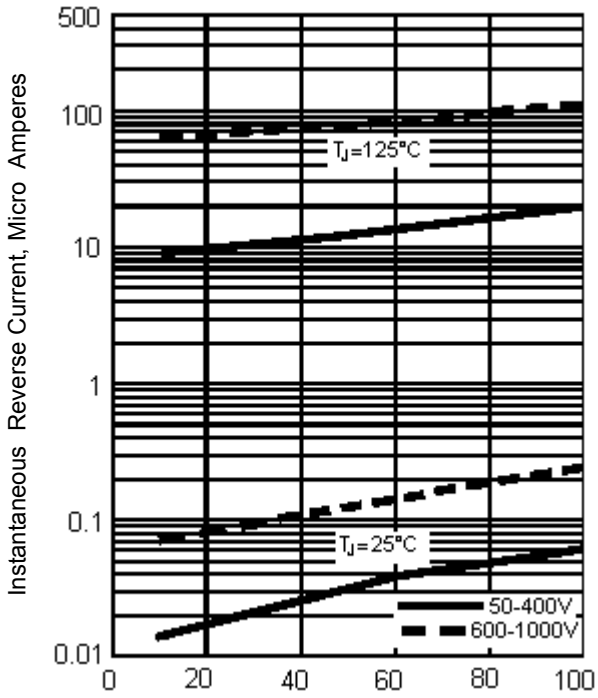


GBU4A



GBU4B, GBU4D, GBU4J, GBU4K

Figure 4 - Typical Reverse Leakage Characteristics per Leg



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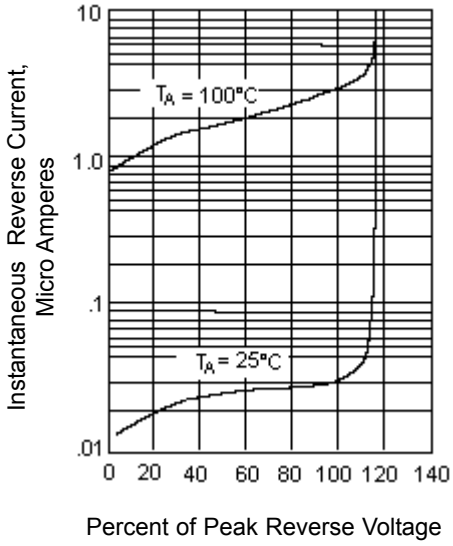
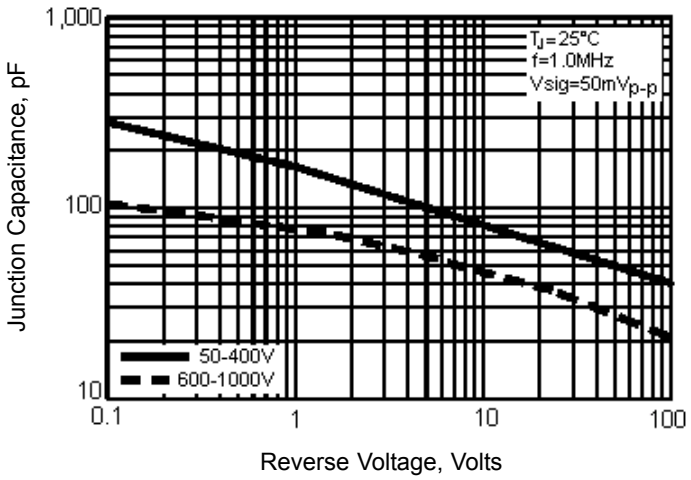
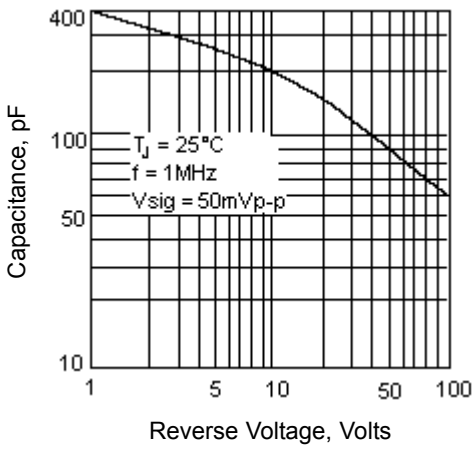


GBU4B, GBU4D, GBU4J, GBU4K

Figure 5 - Typical Junction Capacitance per Leg

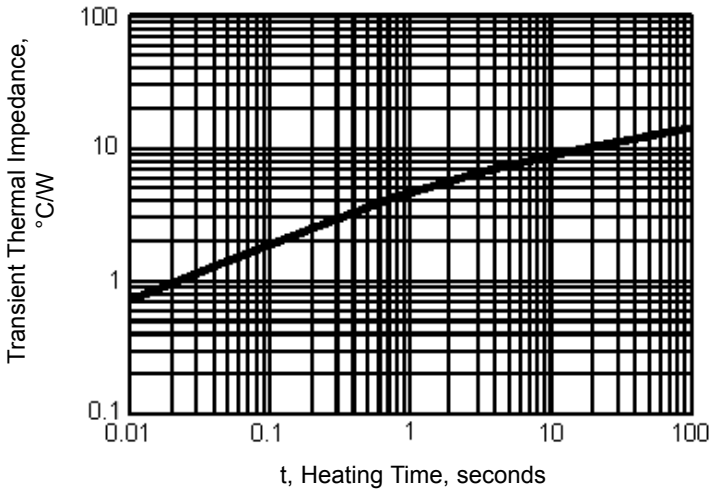


GBU4A



GBU4B, GBU4D, GBU4J, GBU4K

Figure 6 - Typical Transient Thermal Impedance



GBU4A

Specifications

V_{RRM} (V)	Maximum Input Voltage (V ac)	I_O at 40°C (A)	I_{FSM} (A)	Current Rating (A)	Part Number
50	35	4	150	4	GBU4A
100	70				GBU4B
200	140				GBU4D
600	420				GBU4J
800	560				GBU4K

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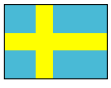

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