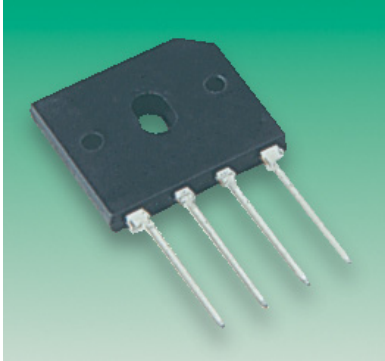


GBU4 Series

Single Phase Bridge Rectifier

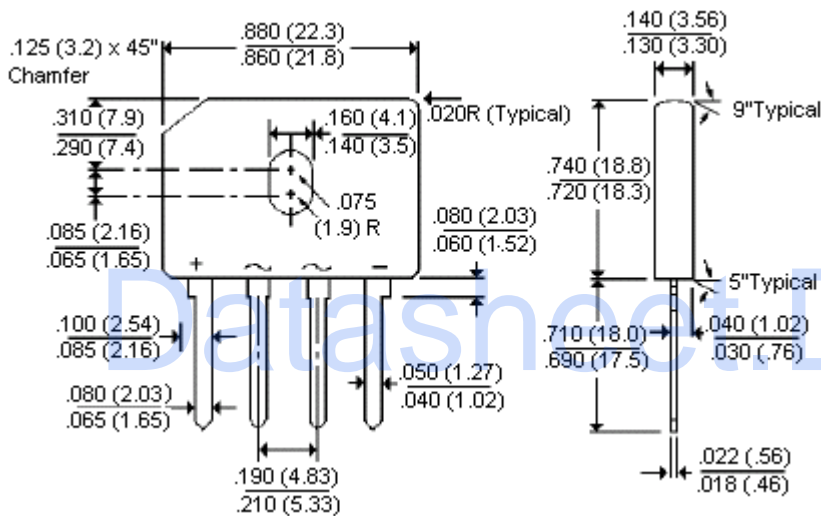




Features:

- Glass passivated single phase bridge 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.
- Glass 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 corner

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.



GBU4 Series

Single Phase Bridge Rectifier



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 $T_C = 100^\circ\text{C}$ (Note 1) $T_C = 40^\circ\text{C}$ (Note 2) | $I_{(AV)}$ | 4.0 3.0 | | | | Amps | |
| Peak forward surge current single sine-wave superimposed on rated load (JEDEC Method) $T_J = 150^\circ\text{C}$ | I_{FSM} | 150 | | | | | |
| Rating for fusing ($t < 8.3\text{ms}$) | 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 DC blocking voltage per leg $T_A = 25^\circ\text{C}$ $T_A = 100^\circ\text{C}$ | 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) | $R_{\theta JC}$ $R_{\theta JA}$ $R_{\theta JA}$ $R_{\theta JL}$ $R_{\theta JA}$ | 4.2 22.0 19.0 4 21.0 | | | | $^\circ\text{C/W}$ | |
| Operating and Storage temperature range | T_J, T_{STG} | -55 to +150 | | | | $^\circ\text{C}$ | |

Notes:

- 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**.
- Measured at 1.0MHz and applied reverse voltage of 4.0 Volts.
- Recommended mounting position is to bolt down on to a heatsink with silicone thermal compound for maximum heat transfer with number 6 screw.
- 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.

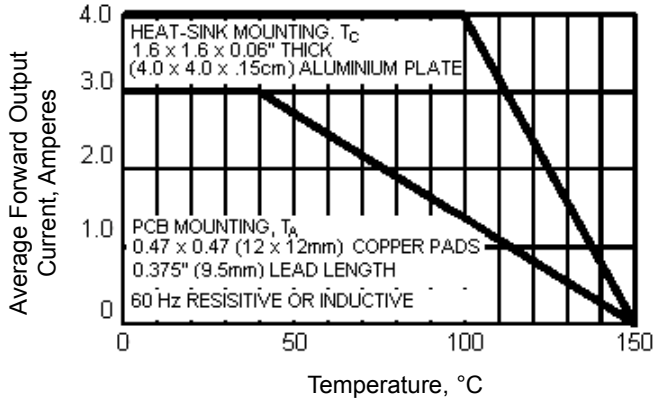
GBU4 Series

Single Phase Bridge Rectifier

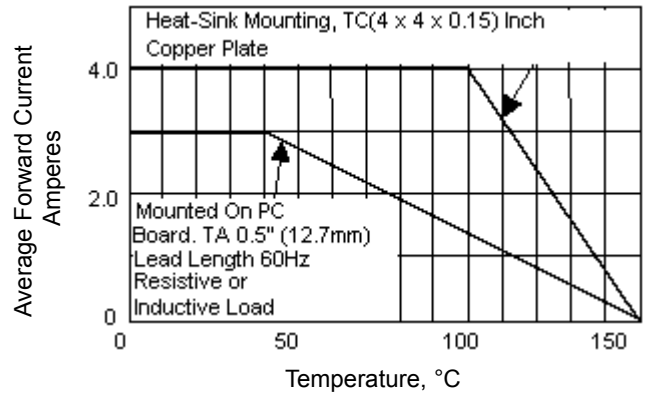


Rating and Characteristics Curves

Figure 1 - Derating Curve for Output Rectified Current

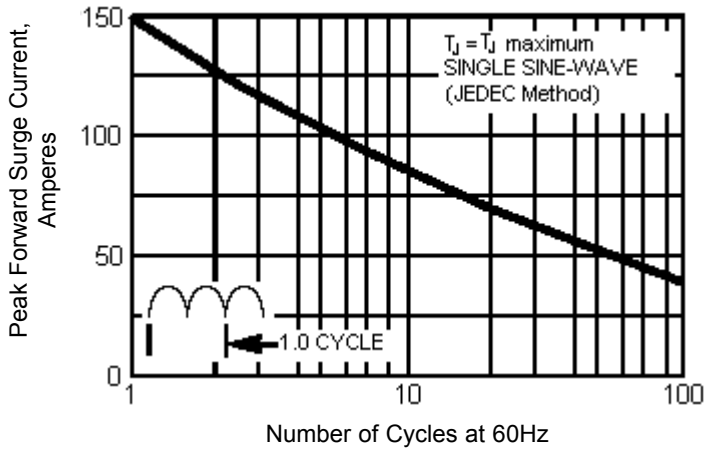


GBU4A

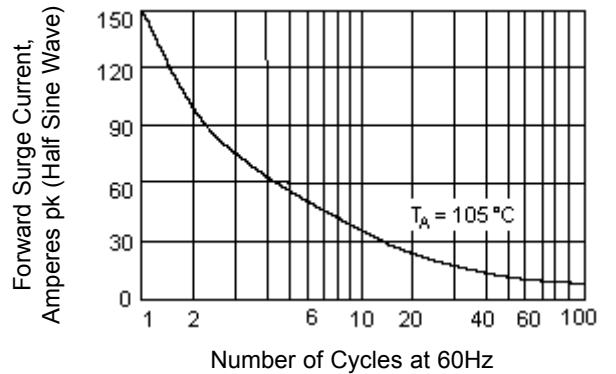


GBU4B, GBU4D, GBU4J, GBU4K

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



GBU4A



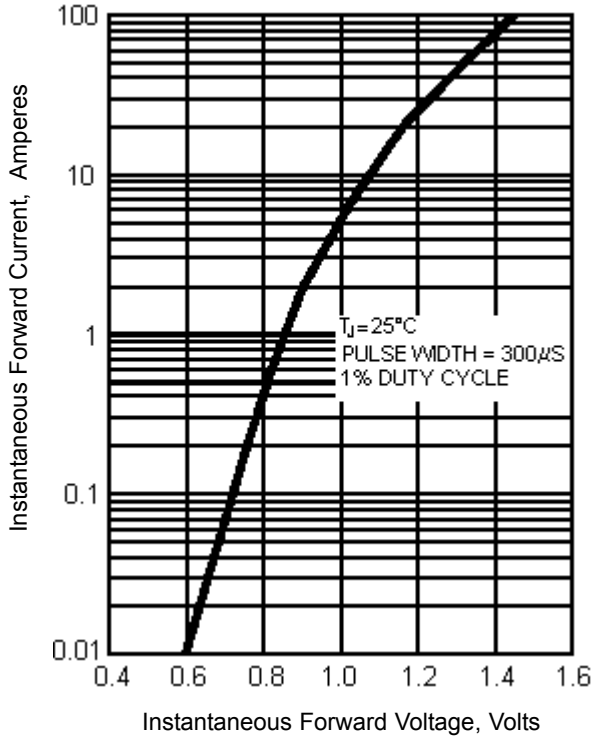
GBU4B, GBU4D, GBU4J, GBU4K

GBU4 Series

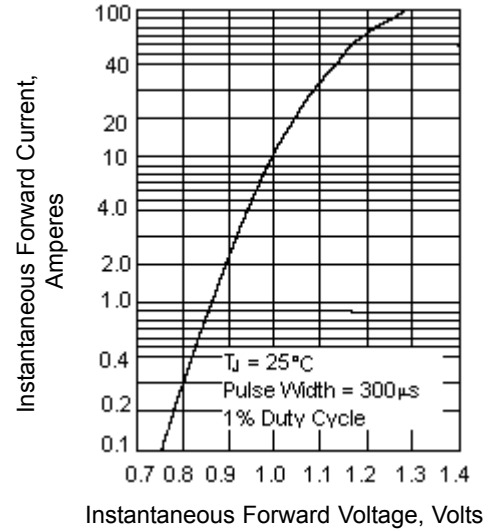
Single Phase Bridge Rectifier



Figure 3 - Typical Instantaneous Forward Characteristics per Element

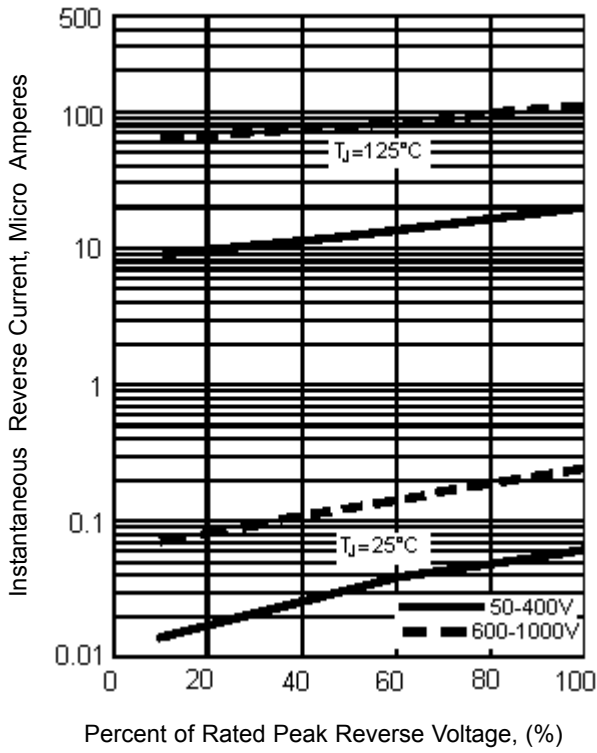


GBU4A

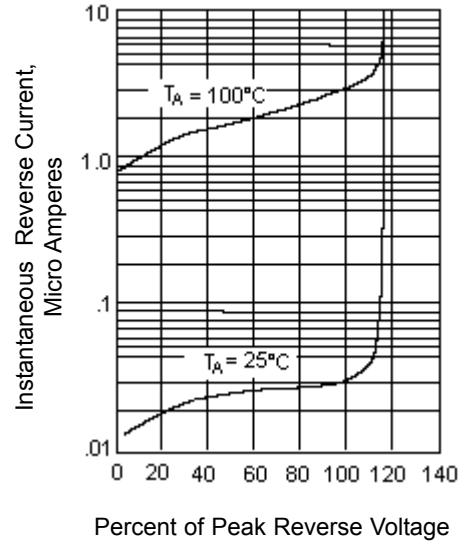


GBU4B, GBU4D, GBU4J, GBU4K

Figure 4 - Typical Reverse Leakage Characteristics per Leg

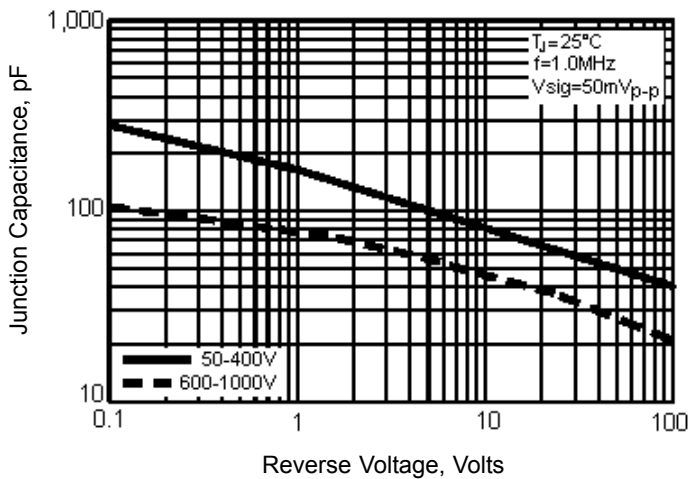


GBU4A

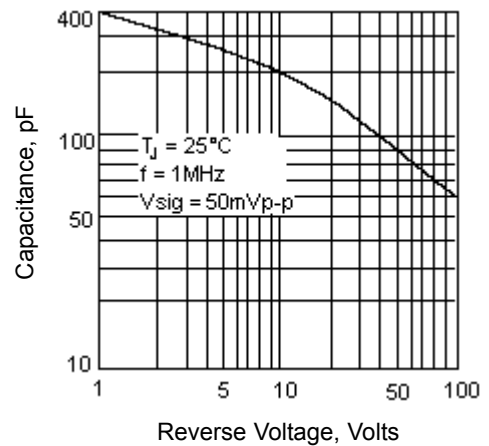


GBU4B, GBU4D, GBU4J, GBU4K

Figure 5 - Typical Junction Capacitance per Leg



GBU4A



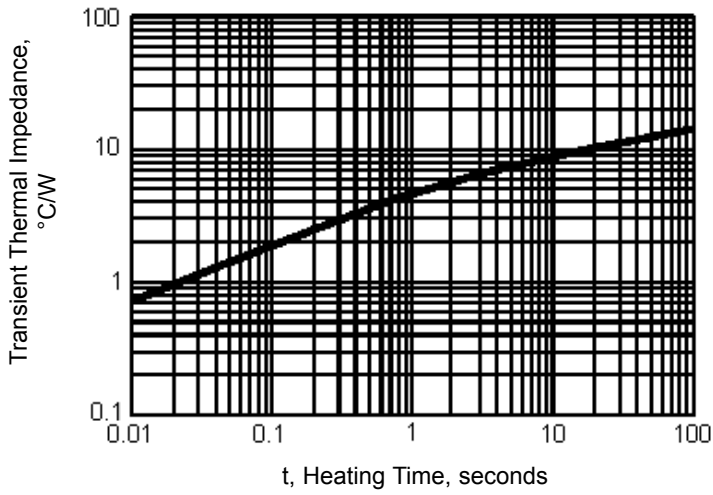
GBU4B, GBU4D, GBU4J, GBU4K

GBU4 Series

Single Phase Bridge Rectifier



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 |

GBU4 Series

Single Phase Bridge Rectifier



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