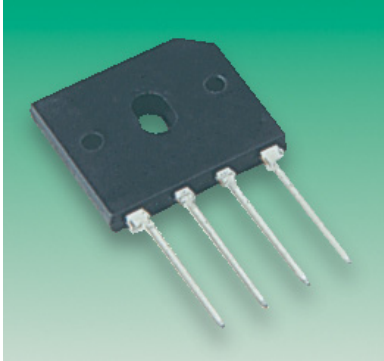


# GBU4 Series

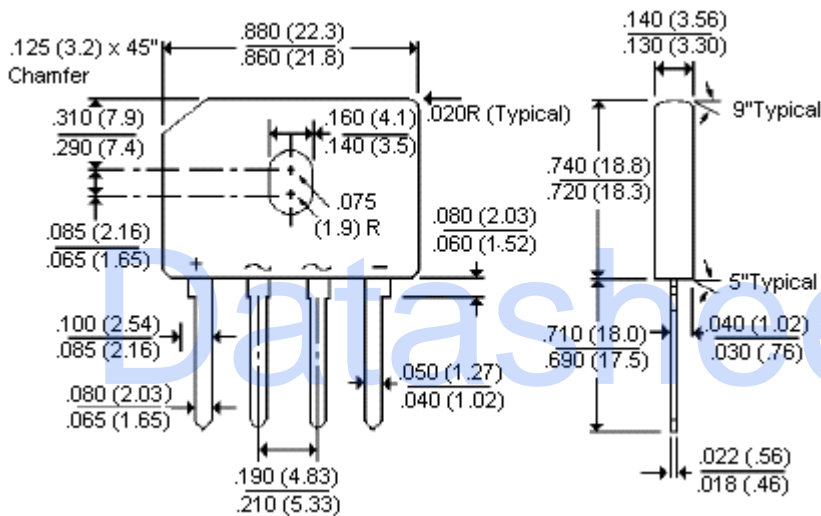
## Single Phase Bridge Rectifier



### 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<sub>RMS</sub>.
- 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 <sup>2</sup> 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				$\mu\text{A}$	
Typical junction capacitance (Note 3)	$C_J$	100		45		pF	
Typical thermal resistance per leg (Note 1) (Note 2) - <b>GBU4A</b> (Note 2) - <b>GBU4B/D/J/K</b> (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.

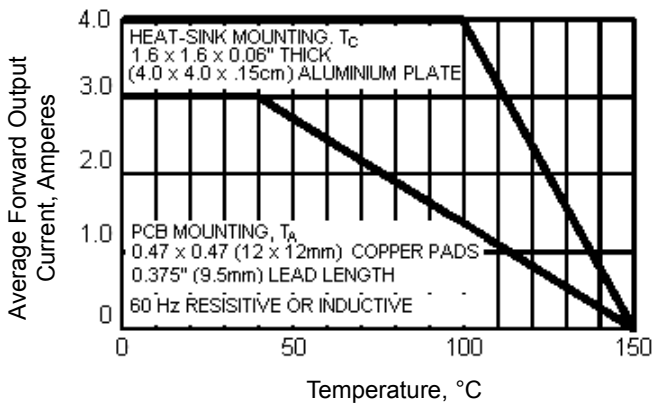
# GBU4 Series

## Single Phase Bridge Rectifier

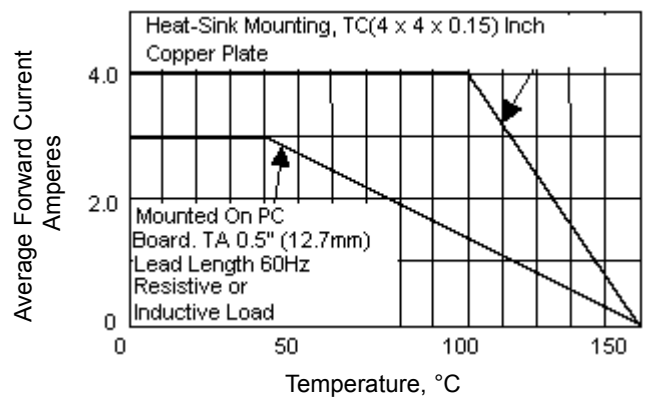


### Rating and Characteristics Curves

Figure 1 - Derating Curve for Output Rectified Current

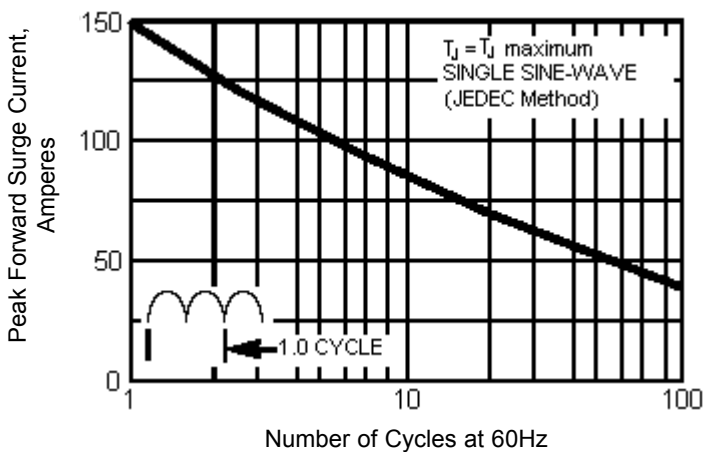


GBU4A

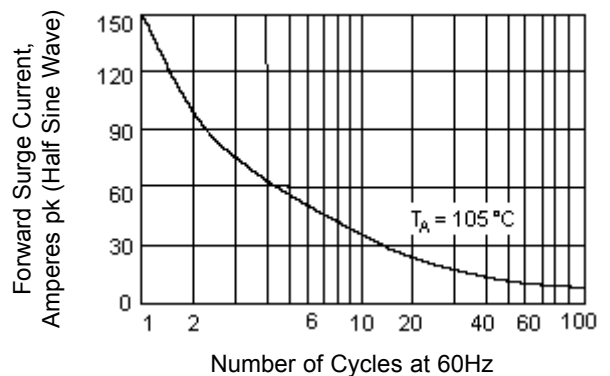


GBU4B, GBU4D, GBU4J, GBU4K

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



GBU4A



GBU4B, GBU4D, GBU4J, GBU4K

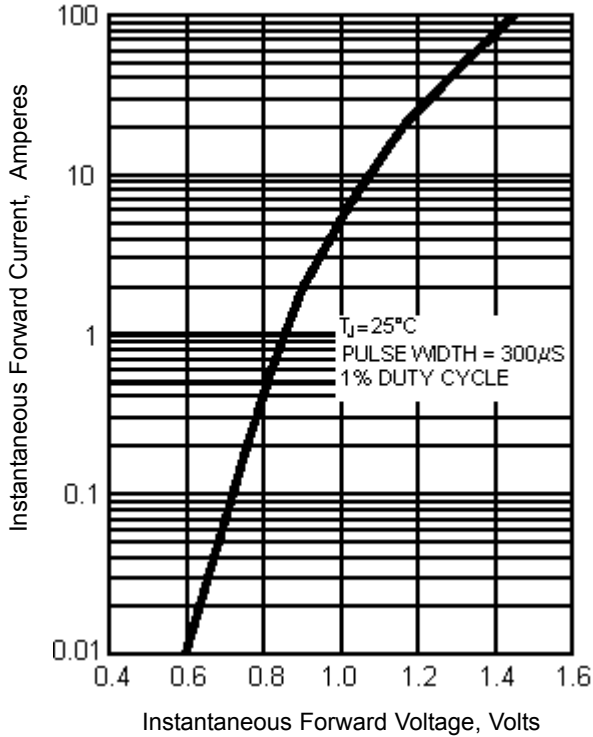


# GBU4 Series

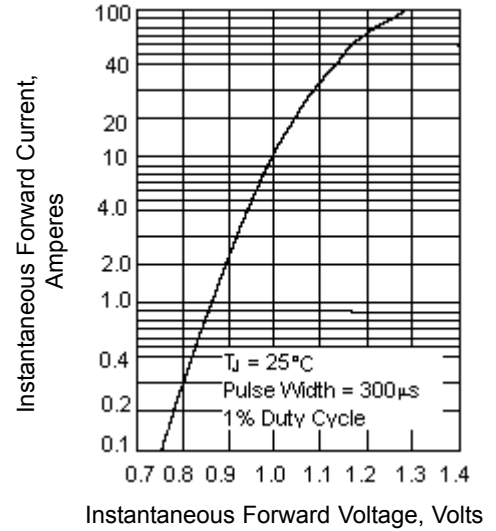
## Single Phase Bridge Rectifier



Figure 3 - Typical Instantaneous Forward Characteristics per Element

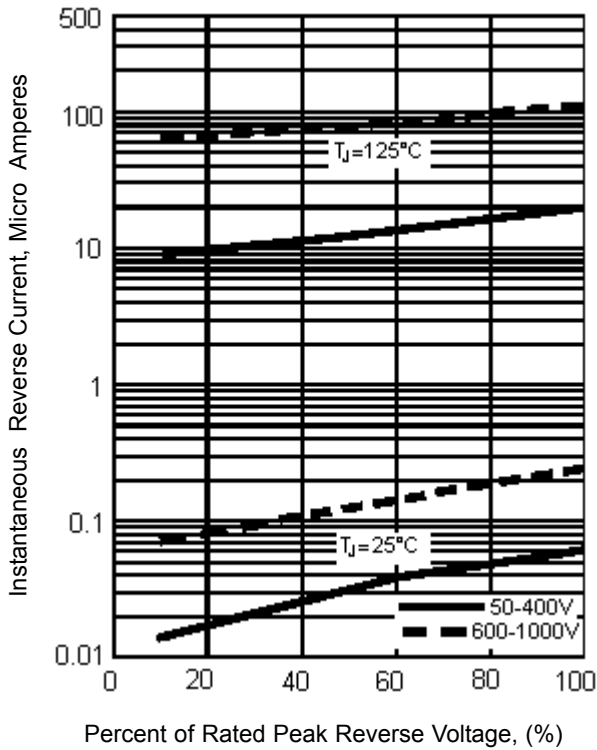


**GBU4A**

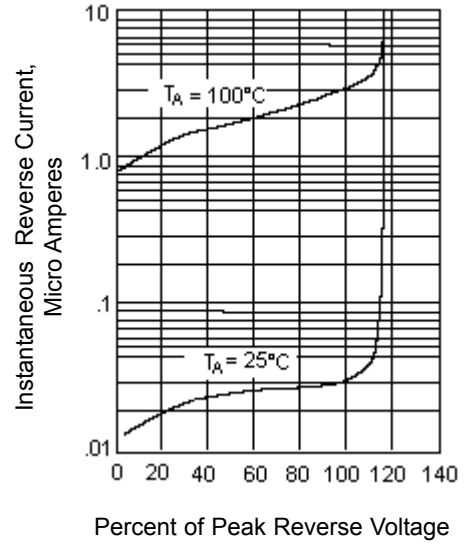


**GBU4B, GBU4D, GBU4J, GBU4K**

Figure 4 - Typical Reverse Leakage Characteristics per Leg

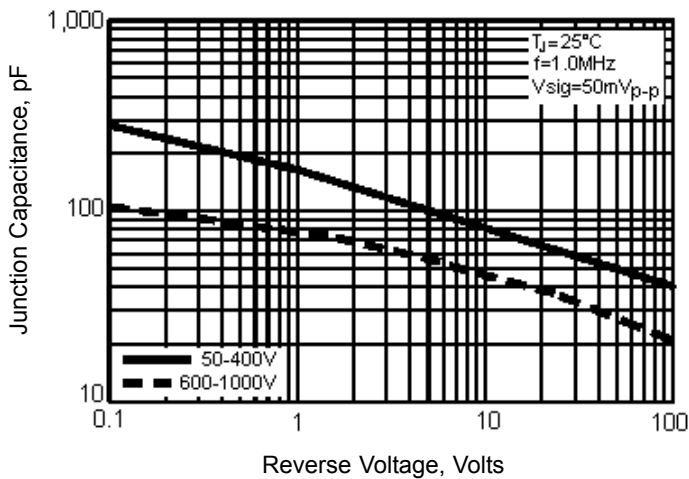


**GBU4A**

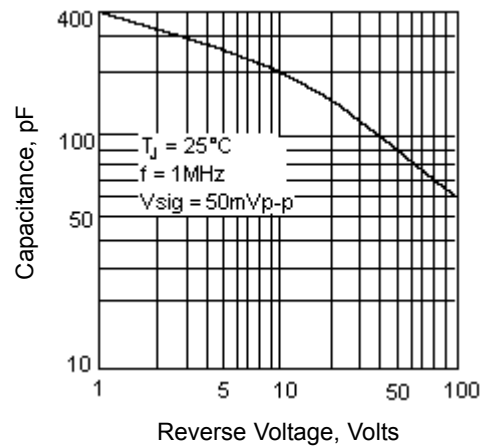


**GBU4B, GBU4D, GBU4J, GBU4K**

Figure 5 - Typical Junction Capacitance per Leg



**GBU4A**



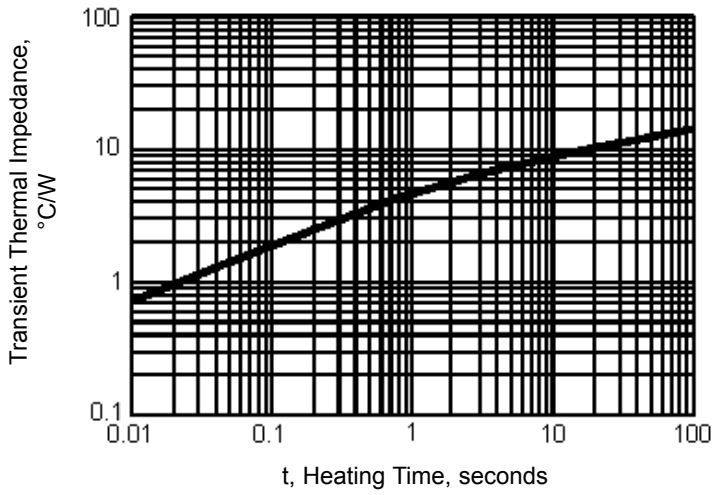
**GBU4B, GBU4D, GBU4J, GBU4K**

# 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



### Notes:

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