FAIRCHILD SEMICONDUCTOR®

September 2013

GBU6A - GBU6M
Bridge Rectifiers

Features

- Glass-Passivated Junction
- Surge Overload Rating: 175 A Peak
- Reliable Low-Cost Construction Utilizing Molded Plastic Technique
- Ideal for Printed Circuit Board
- UL Certified: UL #E258596

GBU

Ordering Informations

Part Number	Marking	Package	Packing Method
GBU6A	GBU6A	GBU 4L	Rail
GBU6B	GBU6B	GBU 4L	Rail
GBU6D	GBU6D	GBU 4L	Rail
GBU6G	GBU6G	GBU 4L	Rail
GBU6J	GBU6J	GBU 4L	Rail
GBU6K	GBU6K	GBU 4L	Rail
GBU6M	GBU6M	GBU 4L	Rail

Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter	Value							Units
		6A	6B	6D	6G	6J	6K	6M	
V_{RRM}	Maximum Repetitive Reverse Voltage	50	100	200	400	600	800	1000	V
V_{RMS}	Maximum RMS Bridge Input Voltage	35	70	140	280	420	560	700	V
V_R	DC Reverse Voltage (Rated V_R)	50	100	200	400	600	800	1000	V
$I_{F(AV)}$	Average Recitified Forward Current T_A = 100°C	6.0							A
I_{FSM}	Non-Repetitive Peak Forward Surge Current 8.3 ms Single Half-Sine-Wave	175							A
T_{STG}	Storage Temperature Range	-55 to +150							°C
T_J	Operating Junction Temperature	-55 to +150							°C

Thermal Characteristics

Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter	Value	Units
P_D	Power Dissipation	12	W
$R_{\theta JA}$	Thermal Resistance per Leg, Junction to Ambient(1)	18.6	°C/W
$R_{\theta JL}$	Thermal Resistance per Leg, Junction to Lead(2)	3.1	°C/W

Notes:

1. Device mounted on PCB with 0.5 x 0.5 inch (12 x 12 mm).
2. Device mounted on Al plate with 2.6 x 1.4 x 0.06 inch (6.5 x 3.5 x 0.15 cm).

Electrical Characteristics

Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter		Value	Units
V_F	Forward Voltage, per Element	6.0 A	1.0	V
I_R	Reverse Current, per Element at Rated V_R	T_A = 25°C	5.0	μA
		T_A = 125°C	500	μA
I^2t	I^2t Rating for Fusing	t < 8.35 ms	127	A^2s

Typical Performance Characteristics

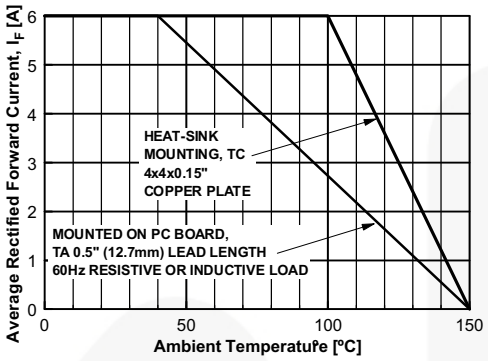


Figure 1. Forward Current Derating Curve

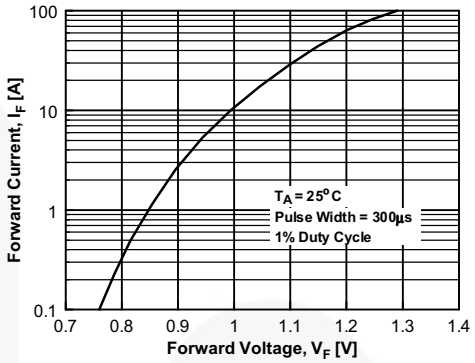


Figure 2. Forward Voltage Characteristics

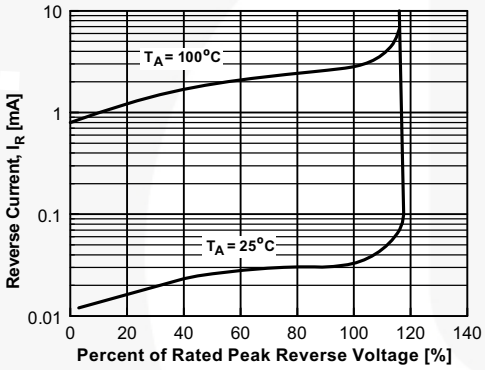


Figure 3. Reverse Current vs. Reverse Voltage

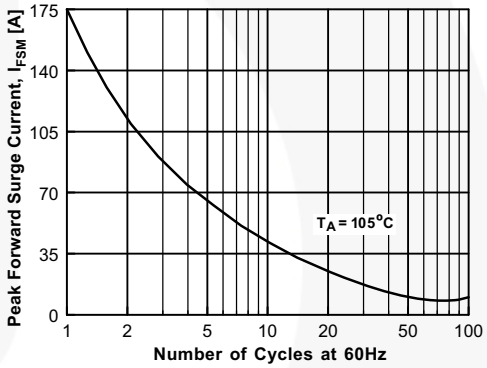


Figure 4. Non-Repetitive Surge Current

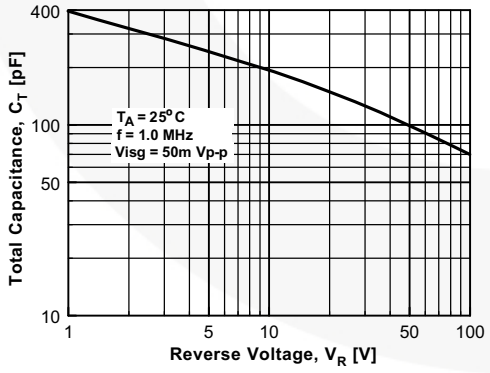
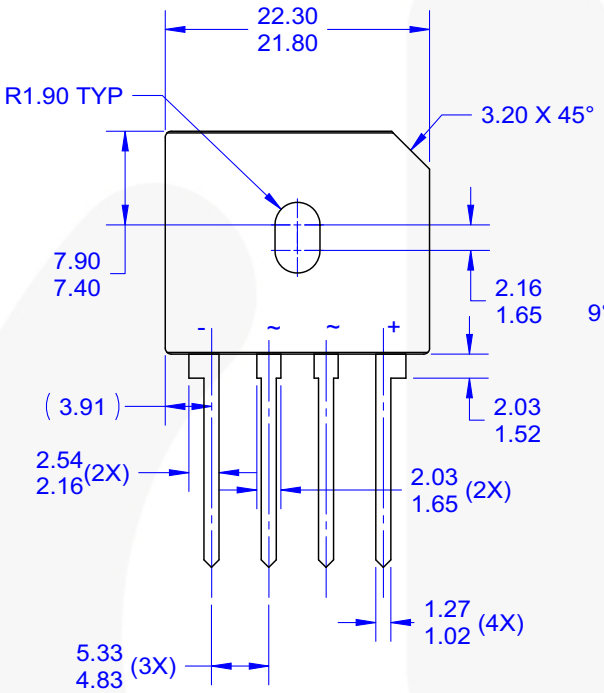
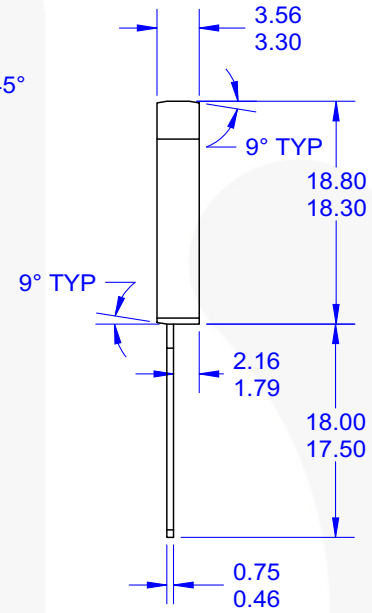


Figure 5. Total Capacitance

Physical Dimensions

GBU-4L





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E. DIMENSION AND TOLERANCE AS PER ASME Y14.5-1994.
F. DRAWING FILE NAME: GBU04AREV1

Figure 6. 4-LEAD, GBU, THROUGH-HOLE, MOLDED PACKAGE (ACTIVE)

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