FAIRCHILD SEMICONDUCTOR®

July 2009

GBU4A - GBU4M
Bridge Rectifiers

Features

- Glass passivated junction.
- Surge overload rating: 150 amperes peak.
- Reliable low cost construction utilizing molded plastic technique.
- Ideal for printed circuit board.
- UL certified, UL #E111753, UL # E326243.

GBU

Absolute Maximum Ratings * T_A = 25°C unless otherwise noted

Symbol	Parameter	Value							Units
		4A	4B	4D	4G	4J	4K	4M	
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 @ T_A = 40°C	4.0 3.0							A A
I_{FSM}	Non-Repetitive Peak Forward Surge Current 8.3ms Single Half-Sine-Wave	150							A
T_{STG}	Storage Temperature Range	-55 to +150							°C
T_J	Operating Junction Temperature	-55 to +150							°C

* These ratings are limiting values above which the serviceability of any semiconductor device may by impaired.

Thermal Characteristics

Symbol	Parameter	Value	Units
P_D	Power Dissipation	8	W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient, * per leg	19	°C/W

* Device mounted on PCB with 0.5 × 0.5" (12 × 12mm).

Electrical Characteristics T_A = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_F	Forward Voltage, per element @ 4.0A	1.0	V
I_R	Reverse Current, per element @ Rated V_R T_A = 25°C T_A = 125°C	5.0 500	µA µA
	I^2t Rating for Fusing t < 8.35ms	93	A^2s

Typical Performance Characteristics

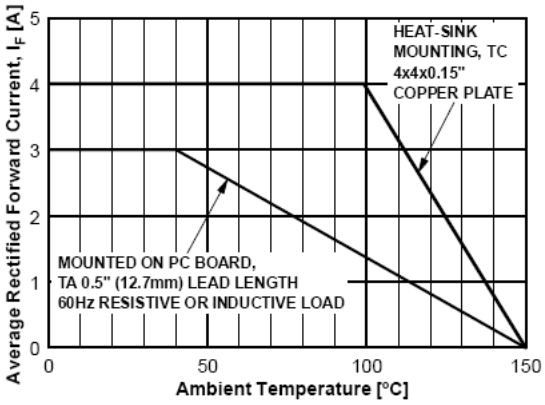

Figure 1. Forward Current Derating Curve

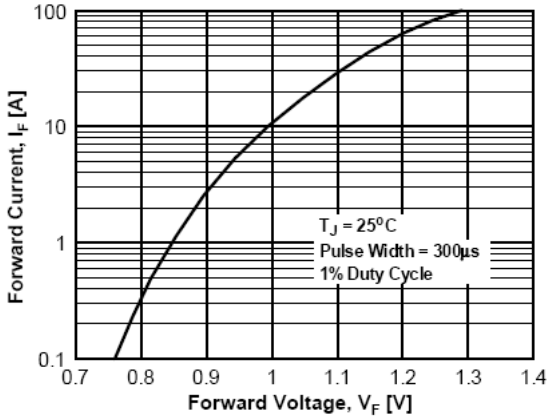

Figure 2. Forward Voltage Characteristics

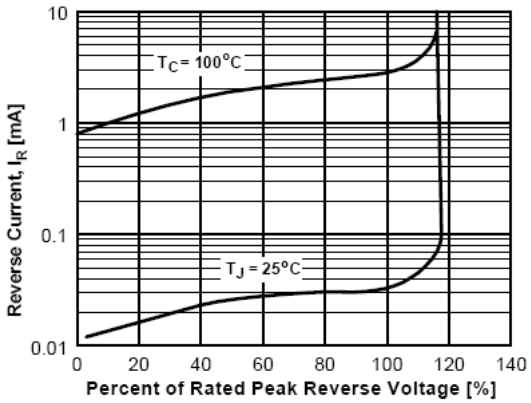

Figure 3. Reverse Current vs Reverse Voltage

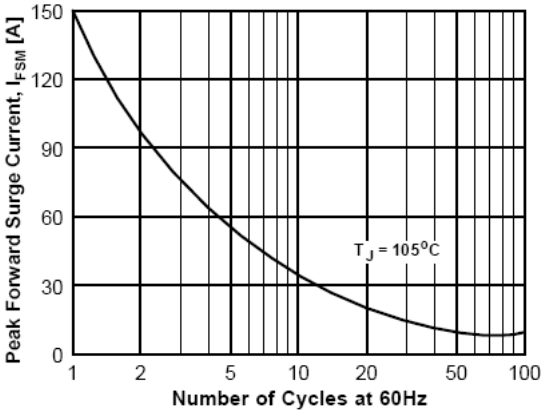

Figure 4. Non-Repetitive Surge Current

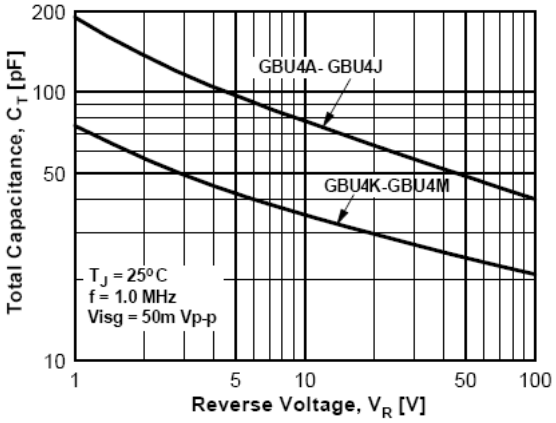

Figure 5. Total Capacitance

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No Identification Needed	Full Production	Datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve the design.
Obsolete	Not In Production	Datasheet contains specifications on a product that is discontinued by Fairchild Semiconductor. The datasheet is for reference information only.

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