Bridge Rectifier

GBU8A

50V / 8A

DATASHEET

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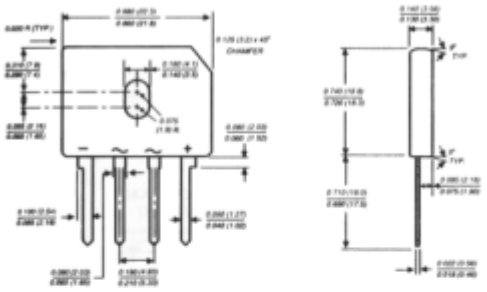
Source: General Semiconductor Databook 1998

GBU8A THRU GBU8M

GLASS PASSIVATED SINGLE-PHASE BRIDGE RECTIFIER

***Reverse Voltage** - 50 to 1000 Volts* ***Forward Current** - 8.0 Amperes*

Case Style GBU



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

Dimensions in inches and (millimeters)

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- This series is UL listed under the Recognized Component Index, file number E54214
- High case dielectric strength of 1500 V_{RMS}
- Ideal for printed circuit boards
- Glass passivated chip junction
- High forward surge current capability
- Typical I_R less than 0.5μA
- High temperature soldering guaranteed: 260°C/10 seconds, 0.375 (9.5mm) lead length, 5lbs. (2.3kg) tension

MECHANICAL DATA

Case: Molded plastic body over passivated junctions
Terminals: Plated leads solderable per MIL-STD-750, Method 2026
Mounting Position: Any (NOTE 3)
Mounting Torque: 5 in. - lbs. max.
Weight: 0.15 ounce, 4.0 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	GBU 8A	GBU 8B	GBU 8D	GBU 8G	GBU 8J	GBU 8K	GBU 8M	UNITS
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	Volts
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	Volts
Maximum average forward rectified output current at T_C=100°C (NOTE 1)	$I_{(AV)}$	8.0							Amps
Peak forward surge current single sine-wave superimposed on rated load (JEDEC Method) T_J=150°C	I_{FSM}	200.0							Amps
Rating for fusing (t<8.3ms)	I^2t	166.0							A^2sec
Maximum instantaneous forward voltage drop per leg at 8.0A	V_F	1.0							Volts
Maximum DC reverse current at T_A=25°C rated DC blocking voltage per leg T_A=125°C	I_R	5.0 500.0							μA
Typical junction capacitance (NOTE 2)	C_J	211.0				94.0			pF
Typical thermal resistance per leg (NOTE 4) (NOTE 1)	$R_{\theta JA}$ $R_{\theta JC}$	21.0 2.2							°C/W
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150							°C

NOTES:
(1) Units case mounted on 3.2 x 3.2 x 0.12" thick (8.2 x 8.2 x 0.3cm.) Al. Plate heatsink
(2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts
(3) Recommended mounting position is to bolt down on heatsink with silicone thermal compound for maximum heat transfer with #6 screws
(4) Units mounted in free air, no heat sink on P.C.B., 0.5 x 0.5" (12 x 12mm) copper pads, 0.375" (9.5mm) lead length

RATINGS AND CHARACTERISTICS CURVES GBU8A THRU GBU8M

FIG. 1 - DERATING CURVE OUTPUT RECTIFIED CURRENT

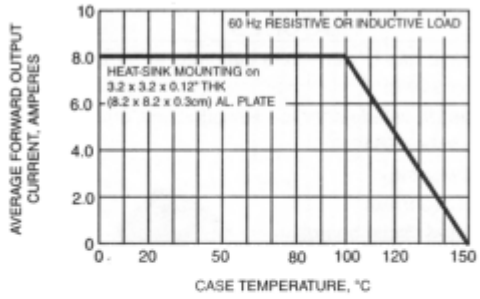


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

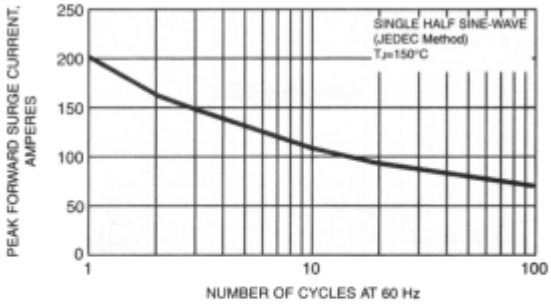


FIG. 3 - TYPICAL FORWARD CHARACTERISTICS PER LEG

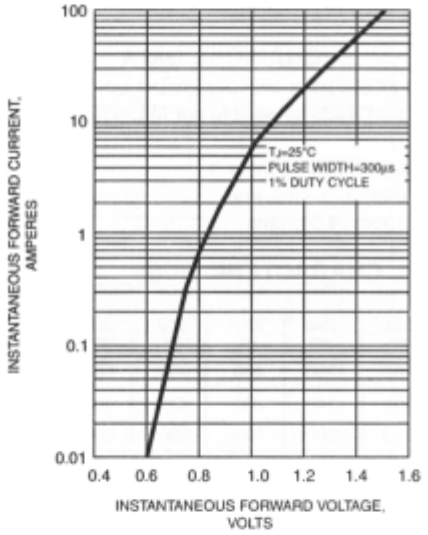


FIG. 4 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS PER LEG

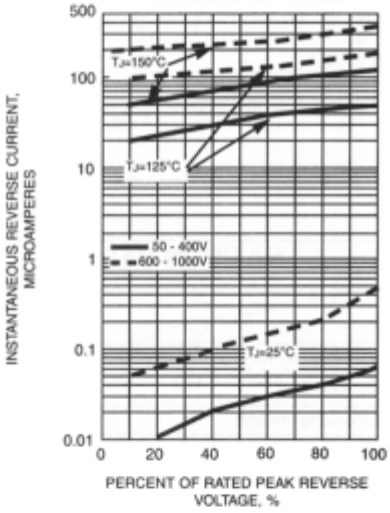


FIG. 5 - TYPICAL JUNCTION CAPACITANCE PER LEG

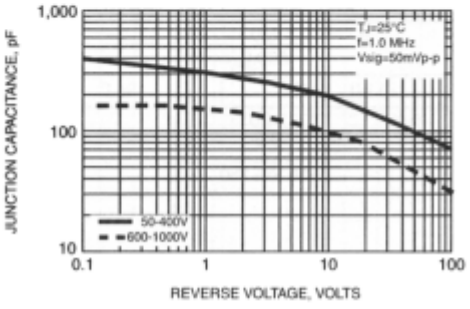


FIG.6 -TYPICAL TRANSIENT THERMAL IMPEDANCE