TAIWAN SEMICONDUCTOR

RoHS COMPLIANCE

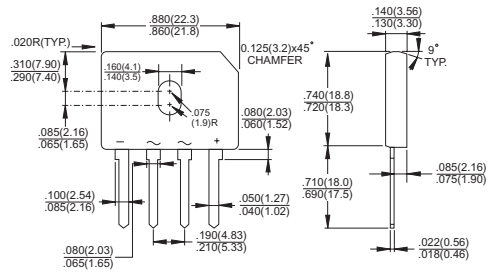
GBU1001 - GBU1007

Single Phase 10.0 AMPS. Glass Passivated Bridge Rectifiers

GBU

Features

- ✧ UL Recognized File # E-96005
- ✧ Ideal for printed circuit board
- ✧ Reliable low cost construction
- ✧ Plastic material has Underwriters Laboratory Flammability Classification 94V-0
- ✧ High case dielectric strength of 1500VRMS
- ✧ Surge overload rating to 200 amperes peak
- ✧ High temperature soldering guaranteed: 260°C / 10 seconds / .375", (9.5mm) lead lengths.



Dimensions in inches and (millimeters)

Mechanical Data

- ✧ Case: Molded plastic body.
- ✧ Terminals: Plated leads solderable per MIL-STD-750, Method 2026.
- ✧ Weight: 0. 3 ounce, 8.0 grams
- ✧ Mounting torque: 5 in. lb. Max.

Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%

Type Number	Symbol	GBU 1001	GBU 1002	GBU 1003	GBU 1004	GBU 1005	GBU 1006	GBU 1007	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current @T_C = 100 °C	$I_{(AV)}$	10.0							A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	220							A
Maximum Instantaneous Forward Voltage @ 5.0A @ 10A	V_F	1.0 1.1							V
Maximum DC Reverse Current @ T_A=25 °C at Rated DC Blocking Voltage @ T_A=125 °C	I_R	5.0 500							uA uA
Typical Junction Capacitance (Note 3)	Cj	211				94			pF
Typical Thermal Resistance Per Leg (Note 1) (Note 2)	$R_{\theta JA}$ $R_{\theta JC}$	21 2.0							°C/W
Operating Temperature Range	T_J	-55 to +150							°C
Storage Temperature Range	T_{STG}	-55 to + 150							°C

Notes 1: Units Mounted In Free Air No Heat Sink On PCB 0.5"x 0.5 " (12mm x 12mm) Copper Pads, 0.375"(9.5mm) Lead Length.
2: Device Mounted on 4" x 6" x 0.25" Plate Heatsink.
3. Measured at 1.0 MHZ and applied Reverse Voltage of 4.0V.

RATINGS AND CHARACTERISTIC CURVES (GBU1001 THRU GBU1007)

FIG.1-MAXIMUM FORWARD CURRENT DERATING CURVE

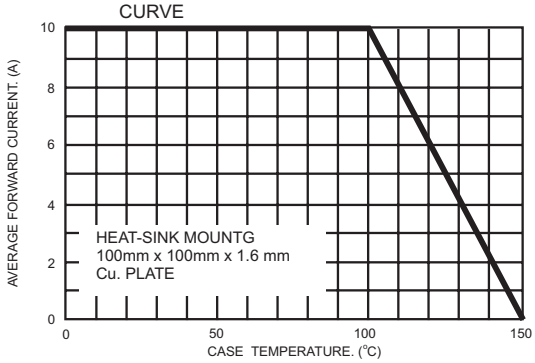


FIG.2- TYPICAL REVERSE CHARACTERISTICS PER BRIDGE ELEMENT

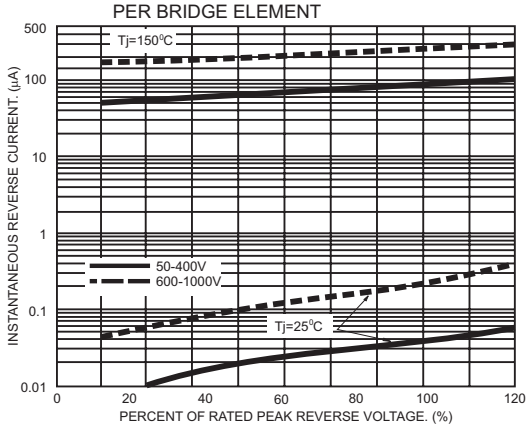


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER BRIDGE ELEMENT

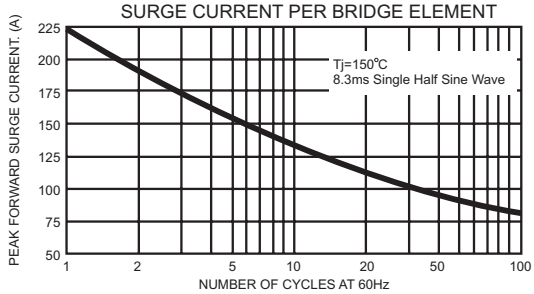


FIG.4- TYPICAL JUNCTION CAPACITANCE

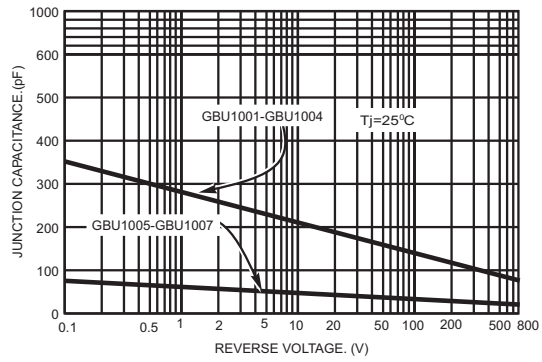


FIG.5- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER BRIDGE ELEMENT