

**GLASS PASSIVATED BRIDGE RECTIFIERS**

**REVERSE VOLTAGE – 400 to 1000 Volts**  
**FORWARD CURRENT – 10 Amperes**

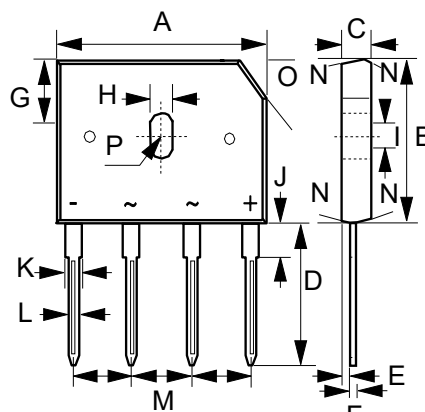
**FEATURES**

- Rating to 1000V PRV.
- Ideal for printed circuit board
- Reliable low cost construction utilizing molded plastic technique.
- UL recognition file # E95060

**MECHANICAL DATA**

- Case: GBU
- Case Material: Plastic material, UL flammability classification 94V-0
- Polarity Indicator: Symbol molded on body
- Weight: 3.72 grams ( Approximate)

**GBU**



GBU		
DIM	MIN	MAX
A	21.80	22.30
B	18.30	18.80
C	3.30	3.56
D	17.50	18.00
E	0.76	1.00
F	0.46	0.56
G	7.40	7.90
H	3.50	4.10
I	1.65	2.16
J	2.25	2.75
K	1.95	2.35
L	1.02	1.27
M	4.83	5.33
N	7.0° TYPICAL	
O	(3.2) x 45°	
P	1.90 PADIUS	
All dimension in millimeter		

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25°C ambient temperature unless otherwise specified.

**ABSOLUTE RATINGS**

PARAMETER	SYMBOL	GBU1004	GBU1006	GBU1008	GBU1010	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	400	600	800	1000	V
Maximum DC blocking voltage	$V_{DC}$	400	600	800	1000	V
Average rectified output current per device with heatsink (Note 2) without heatsink @ $T_C = 100^\circ\text{C}$	$I_{(AV)}$	10 3.2				A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load @ $T_A = 25^\circ\text{C}$ @ $T_A = 125^\circ\text{C}$	$I_{FSM}$	240 220				A
Peak forward surge current 1ms single half sine-wave superimposed on rated load @ $T_A = 25^\circ\text{C}$ @ $T_A = 125^\circ\text{C}$	$I_{FSM}$	480 440				A
$I^2 t$ rating for fusing ( $t = 8.3 \text{ ms}$ ) @ $T_A = 25^\circ\text{C}$	$I^2 t$	239				A <sup>2</sup> S
Mounting Torque ( recommended torque: 0.5 N.m )	TOR	0.8				N.m
Operating and storage temperature range	$T_J, T_{STG}$	-55 to +150				°C

**STATIC ELECTRICAL CHARACTERISTICS**

PARAMETER	TEST CONDITION	SYMBOL	MAX	UNIT
Forward voltage	$I_F = 5.0\text{A}$ $T_J = 25^\circ\text{C}$	$V_F$	1.0	V
	$I_F = 10\text{A}$ $T_J = 25^\circ\text{C}$		1.2	
Leakage current	$V_R$ at rated $T_J = 25^\circ\text{C}$ $T_J = 125^\circ\text{C}$	$I_R$	5 500	uA
Typical junction capacitance (Note 1)		$C_J$	60	pF

**THERMAL CHARACTERISTICS**

PARAMETER	SYMBOL	TYP.	UNIT
Typical thermal resistance	$R_{thJC}$ (Note 2)	2.0	°C/W
	$R_{thJC}$ (without heatsink)	5.6	
	$R_{thJA}$ (without heatsink)	22	

**Note :**

- (1) Measured at 1.0MHz and applied reverse voltage of 4.0V DC
- (2) Thermal resistance junction to case and ambient in accordance with JESD-51.  
Device mounted on 150mm \* 150mm \* 1.6mm Cu plate heatsink.

REV.10, Mar-2019, KBDJ04

# RATING AND CHARACTERISTIC CURVES GBU1004 thru GBU1010



FIG.1- FORWARD CURRENT DERATING CURVE

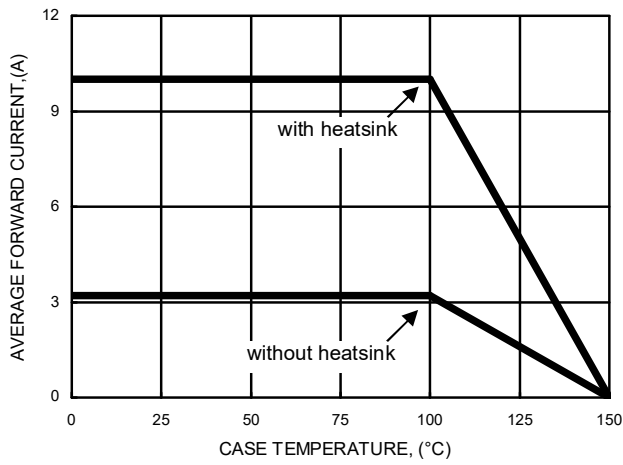


FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

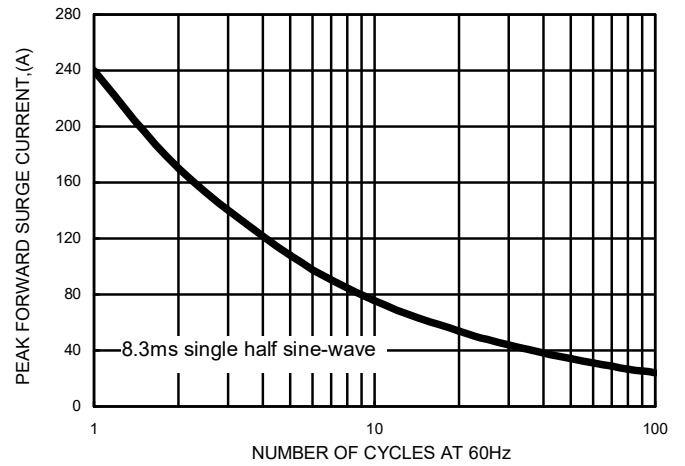


FIG.3- TYPICAL FORWARD CHARACTERISTICS

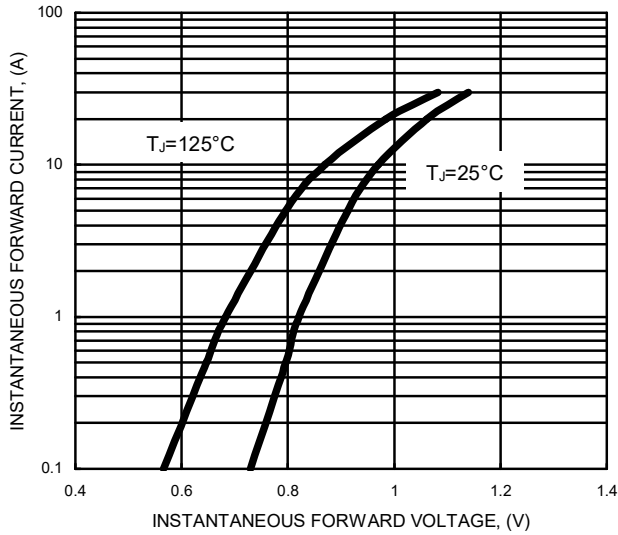


FIG.4- TYPICAL JUNCTION CAPACITANCE

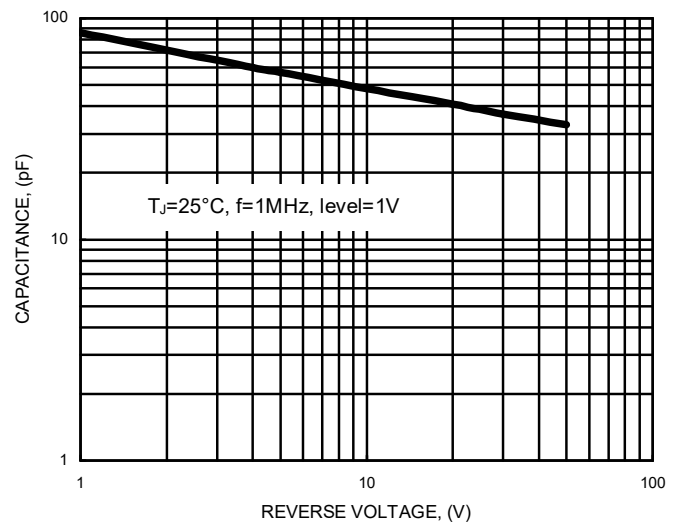


FIG.5- TYPICAL REVERSE CHARACTERISTICS

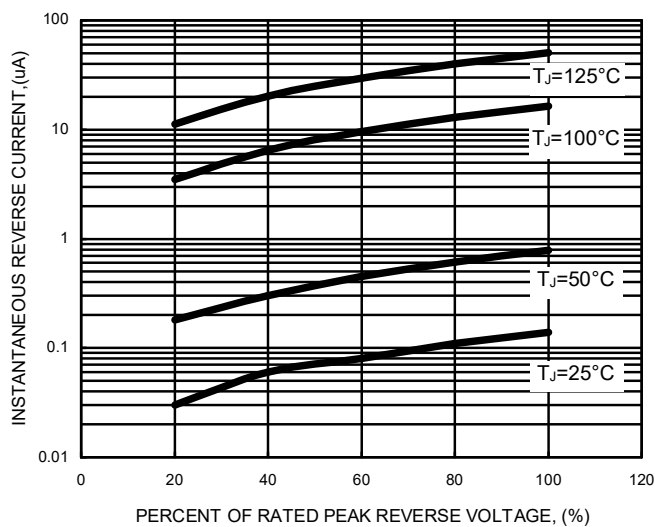
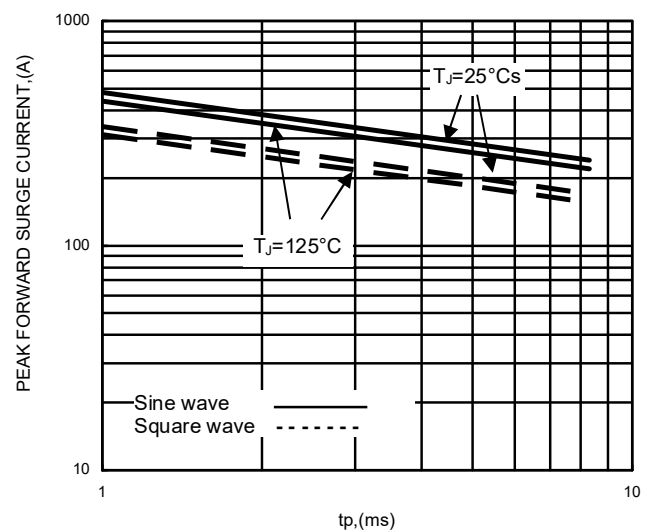


FIG.6- NON-REPETITIVE SURGE CURRENT



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