

## 6A, 50V - 1000V Glass Passivated Single-Phase Bridge Rectifiers

### FEATURES

- Ideal for printed circuit board
- High case dielectric strength of 1500 VRMS
- High surge current capability
- Typical IR less than 0.1 $\mu$ A
- UL Recognized File # E-326243
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21


**GBU**


### MECHANICAL DATA

**Case:** GBU

Molding compound, UL flammability classification rating 94V-0

Part no. with suffix "H" means AEC-Q101 qualified

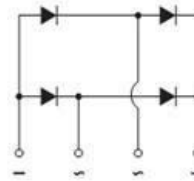
Packing code with suffix "G" means green compound (halogen-free)

**Terminal:** Matte tin plated leads, solderable per JESD22-B102

**Polarity:** As marked

**Mounting torque:** 0.56 Nm (5 in-lbs) max.

**Weight:** 4 g (approximately)



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS ( $T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	GBU 601	GBU 602	GBU 603	GBU 604	GBU 605	GBU 606	GBU 607	UNIT
Maximum repetitive 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	$I_{F(AV)}$	6							A
Peak forward surge current, 8.3 ms single half sine-wave	$I_{FSM}$	175							A
Rating of fusing ( $t < 8.3\text{ms}$ )	$I^2t$	127							$\text{A}^2\text{s}$
Maximum Instantaneous Forward Voltage (Note 1) $I_F = 3\text{ A}$ $I_F = 6\text{ A}$	$V_F$				1.0 1.1				V
Maximum reverse current @ rated $V_R$ $T_J = 25^\circ\text{C}$ $T_J = 125^\circ\text{C}$	$I_R$	5							$\mu\text{A}$
		500							
Typical junction capacitance per leg (Note 2)	$C_J$	211				94			pF
Typical thermal resistance	$R_{\theta JC}$	2							$^\circ\text{C/W}$
	$R_{\theta JA}$	21							
Operating junction temperature range	$T_J$	- 55 to +150							$^\circ\text{C}$
Storage temperature range	$T_{STG}$	- 55 to +150							$^\circ\text{C}$

Note 1: Pulse test with  $PW=300\mu\text{s}$ , 1% duty cycle

Note 2: Measured at 1MHz and applied Reverse bias of 4.0V DC

ORDERING INFORMATION					
PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX (*)	PACKAGE	PACKING
GBU60x (Note 1)	H	C2	G	GBU	20 / Tube
		D2			20 / Tube
		X0			Forming

Note 1: "x" defines voltage from 50V (GBU601) to 1000V (GBU607)

\*: Optional available

EXAMPLE					
PREFERRED PART NO.	PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
GBU606HC2G	GBU606	H	C2	G	AEC-Q101 qualified Green compound

**RATINGS AND CHARACTERISTICS CURVES**

(T<sub>A</sub>=25°C unless otherwise noted)

FIG.1 FORWARD CURRENT DERATING CURVE

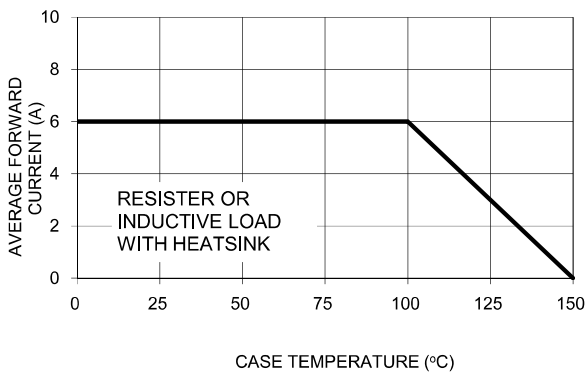


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

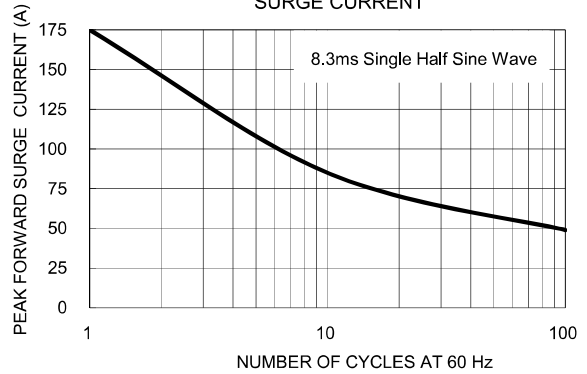


FIG. 3 TYPICAL REVERSE CHARACTERISTICS

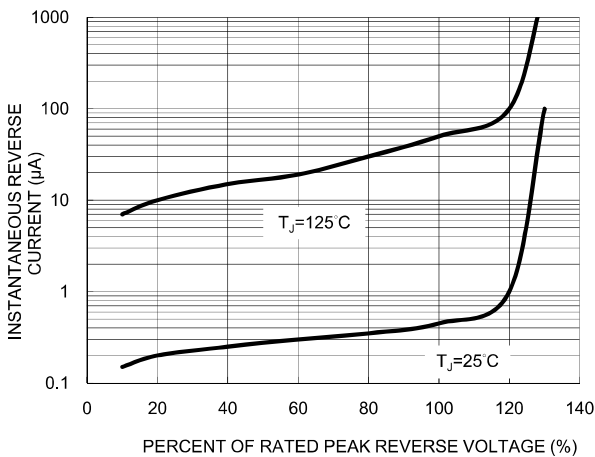


FIG. 4 TYPICAL FORWARD CHARACTERISTICS

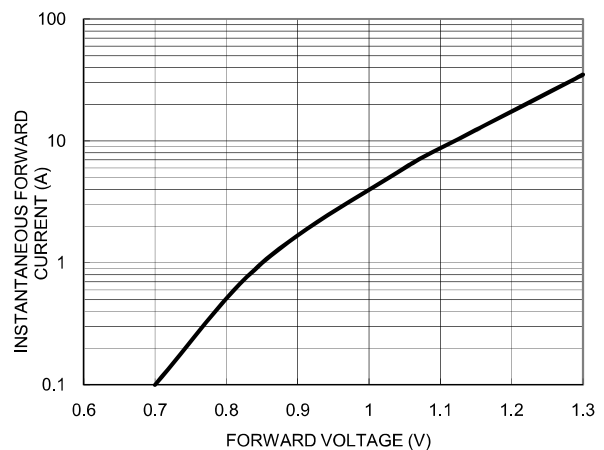
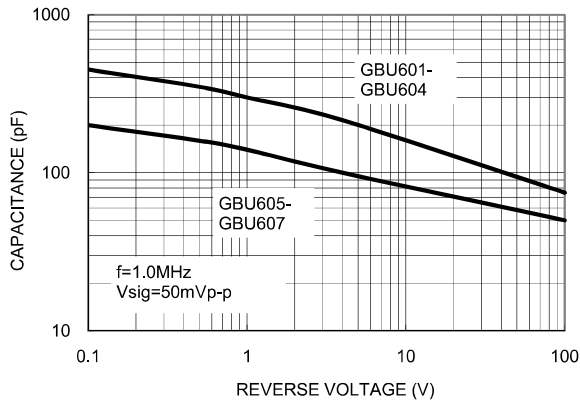
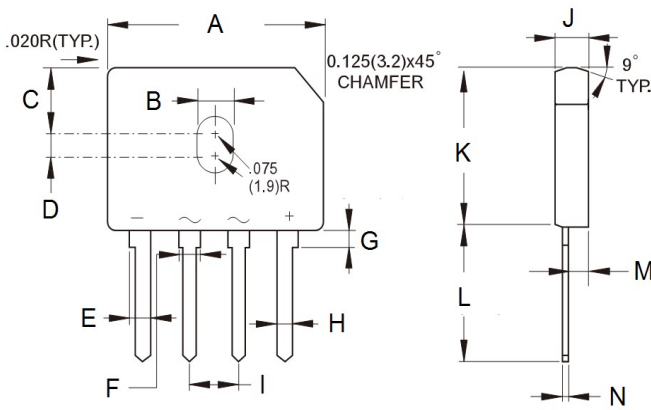


FIG. 5 TYPICAL JUNCTION CAPACITANCE



**PACKAGE OUTLINE DIMENSIONS**

**GBU**



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	21.80	22.30	0.858	0.878
B	3.50	4.10	0.138	0.161
C	7.40	7.90	0.291	0.311
D	1.65	2.16	0.065	0.085
E	2.16	2.54	0.085	0.100
F	1.65	2.03	0.065	0.080
G	1.52	2.03	0.060	0.080
H	1.02	1.27	0.040	0.050
I	4.83	5.33	0.190	0.210
J	3.30	3.56	0.130	0.140
K	18.30	18.80	0.720	0.740
L	17.50	18.00	0.689	0.709
M	1.90	2.16	0.075	0.085
N	0.46	0.56	0.018	0.022

**MARKING DIAGRAM**



- P/N = Specific Device Code
- G = Green Compound
- YW = Date Code
- F = Factory Code

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