8A, 400V - 1000V Glass Passivated Single-Phase Bridge Rectifier

FEATURES

- Ideal for printed circuit board
- High case dielectric strength of 1500 V_{RMS}
- High surge current capability
- Typical IR less than 0.1μA
- 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

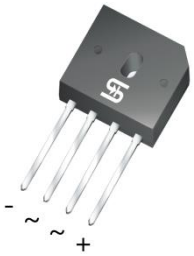
KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
$I_{F(AV)}$	8	A
V_{RRM}	400 - 1000	V
I_{FSM}	200	A
$T_{J\ MAX}$	150	°C
Package	GBU	
Configuration	Quad	

APPLICATIONS

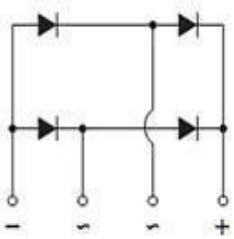
- Switching mode power supply (SMPS)
- Adapters
- TV
- Monitor

MECHANICAL DATA

- Case: GBU
- Molding compound meets UL 94V-0 flammability rating
- Packing code with suffix "G" means green compound (halogen-free)
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Mounting torque: 0.56 Nm max
- Polarity: As marked
- Weight: 4 g (approximately)



GBU



ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

PARAMETER	SYMBOL	GBU804-K	GBU805-K	GBU806-K	GBU807-K	UNIT
Marking code on the device		GBU804	GBU805	GBU806	GBU807	
Repetitive peak reverse voltage	V_{RRM}	400	600	800	1000	V
Reverse voltage, total rms value	$V_{R(RMS)}$	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	400	600	800	1000	V
Forward current	$I_{F(AV)}$	8				A
Surge peak forward current, 8.3 ms single half sine-wave superimposed on rated load per diode	I_{FSM}	200				A
Rating of fusing (t<8.3ms)	I^2t	166				A^2s
Junction temperature	T_J	- 55 to +150				°C
Storage temperature	T_{STG}	- 55 to +150				°C

THERMAL PERFORMANCE

PARAMETER	SYMBOL	TYP.	UNIT
Junction-to-ambient thermal resistance	$R_{\Theta JA}$	21	°C/W
Junction-to-case thermal resistance	$R_{\Theta JC}$	2	°C/W

ELECTRICAL SPECIFICATIONS (T_A = 25°C unless otherwise noted)

PARAMETER		CONDITIONS	SYMBOL	TYP.	MAX.	UNIT
Forward voltage per diode (1)		I_F =4A, T_J=25°C	V_F	-	1.0	V
		I_F =8A, T_J=25°C		-	1.1	V
Reverse current @ rated V_R per diode (2)		T_J = 25°C	I_R	-	5	μA
		T_J =125°C		-	500	μA
Junction capacitance	GBU804-K	1 MHz, V_R=4.0V	C_J	211	-	pF
	GBU805-K GBU806-K GBU807-K			94	-	pF

Notes:

1. Pulse test with PW=0.3 ms
2. Pulse test with PW=30 ms

ORDERING INFORMATION

PART NO.	PACKING CODE	PACKING CODE SUFFIX(*)	PACKAGE	PACKING
GBU80x-K (Note 1)	D2	G	GBU	20 / Tube

Note:

1. "x" defines voltage from 400V (GBU804-K) to 1000V (GBU807-K)

*: Optional available

EXAMPLE P/N

EXAMPLE P/N	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
GBU804-K D2G	GBU804-K	D2	G	Green compound

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

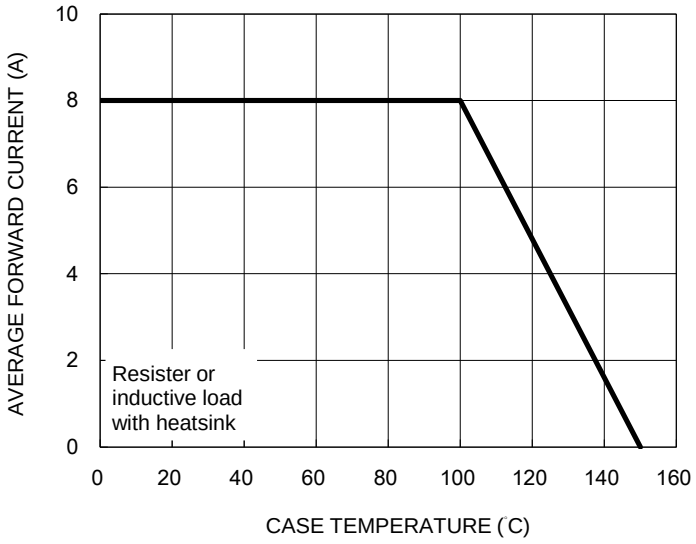


Fig.2 Typical Junction Capacitance

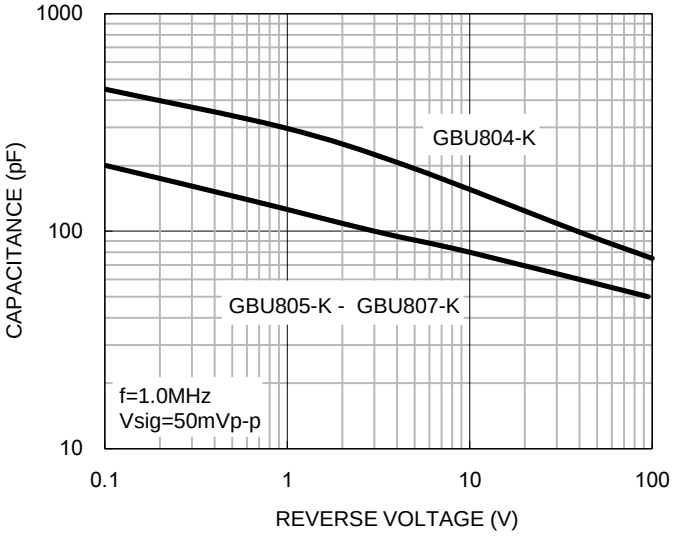


Fig.3 Typical Reverse Characteristics

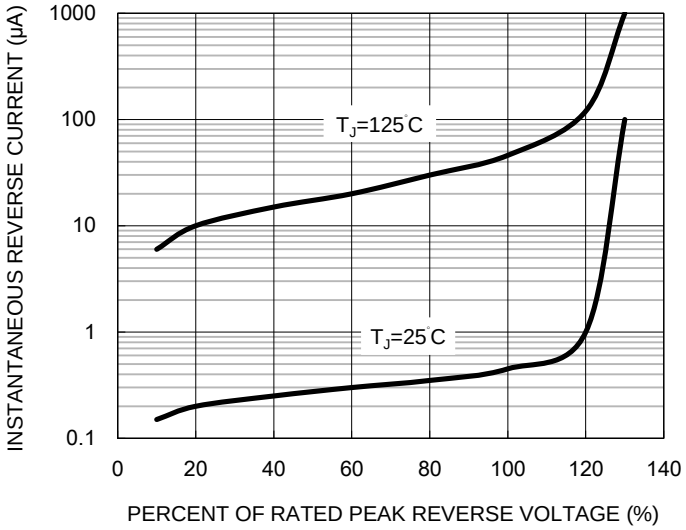
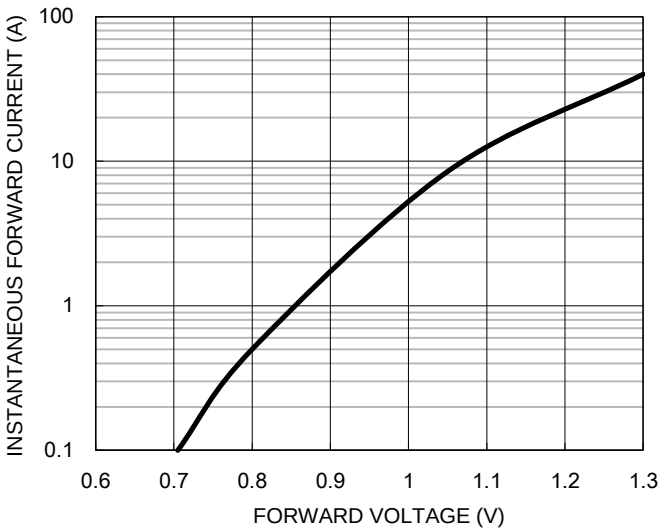


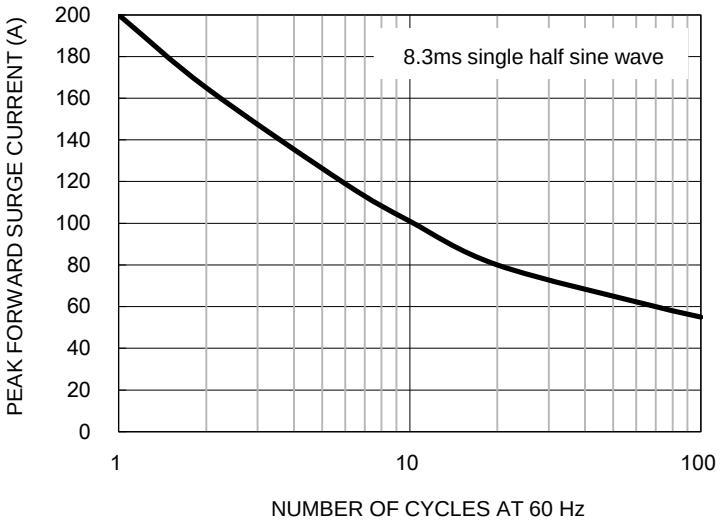
Fig.4 Typical Forward Characteristics



CHARACTERISTICS CURVES

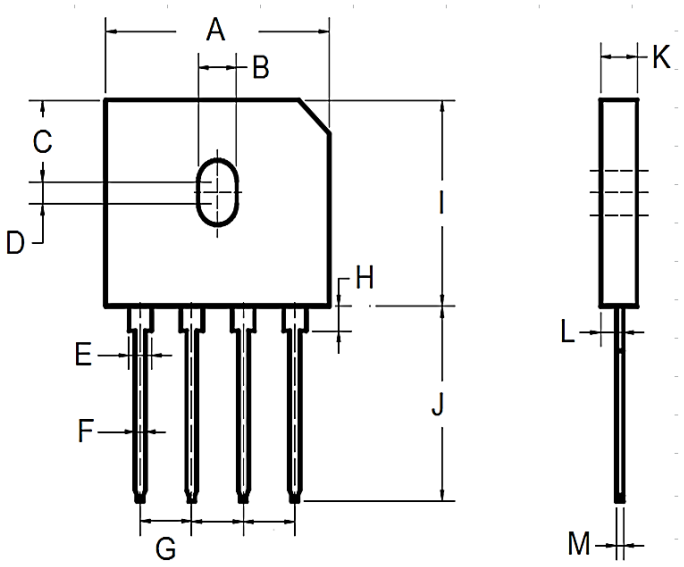
(T_A = 25°C unless otherwise noted)

Fig.5 Maximum Non-repetitive Forward Surge Current



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	2.06	2.54	0.081	0.100
F	1.02	1.27	0.040	0.050
G	4.83	5.33	0.190	0.210
H	1.91	2.54	0.075	0.100
I	18.30	18.80	0.720	0.740
J	17.50	18.00	0.689	0.709
K	3.30	3.56	0.130	0.140
L	2.40	2.66	0.094	0.105
M	0.46	0.56	0.018	0.022

MARKING DIAGRAM

P/N = Marking code
G = Green Compound
YWW = Date Code
F = Factory Code

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