

10A, 600V - 1000V Standard Bridge Rectifier

FEATURES

- Ideal for printed circuit board
- High surge current capability
- UL Recognized File # E-326243
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

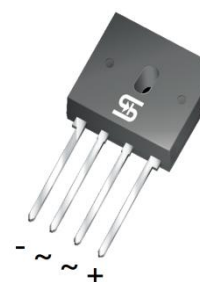
APPLICATIONS

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

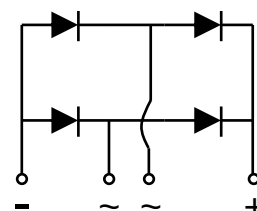
MECHANICAL DATA

- Case: GBU
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1 whisker test
- Polarity: As marked
- Weight: 3.96g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
I_F	10	A
V_{RRM}	600 - 1000	V
I_{FSM}	200	A
$T_{J\ MAX}$	150	°C
Package	GBU	
Configuration	Quad	



GBU



ABSOLUTE MAXIMUM RATINGS (T _A = 25°C unless otherwise noted)						
PARAMETER		SYMBOL	GBU1005-K	GBU1006-K	GBU1007-K	UNIT
Marking code on the device			GBU1005	GBU1006	GBU1007	
Repetitive peak reverse voltage		V _{RRM}	600	800	1000	V
Reverse voltage, total rms value		V _{R(RMS)}	420	560	700	V
Forward current		I _F	10			A
Surge peak forward current single half sine-wave superimposed on rated load per diode	t = 8.3ms	I _{FSM}	200			A
	t = 1.0ms		550			
Rating of fusing (t<8.3ms)		I ² t	166			A ² s
Junction temperature		T _J	- 55 to +150			°C
Storage temperature		T _{STG}	- 55 to +150			°C

THERMAL PERFORMANCE

PARAMETER	SYMBOL	TYP	UNIT
Junction-to-lead thermal resistance	$R_{\theta JL}$	1.7	°C/W
Junction-to-ambient thermal resistance	$R_{\theta JA}$	7.6	°C/W
Junction-to-case thermal resistance	$R_{\theta JC}$	1.2	°C/W

Thermal Performance Note: Mounted on heat sink with 4" x 6" x 0.25" Al-Plate.

ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage per diode ⁽¹⁾	$I_F = 5\text{A}, T_J = 25^\circ\text{C}$	V_F	0.92	-	V
	$I_F = 10\text{A}, T_J = 25^\circ\text{C}$		0.98	1.10	V
	$I_F = 5\text{A}, T_J = 125^\circ\text{C}$		0.80	-	V
	$I_F = 10\text{A}, T_J = 125^\circ\text{C}$		0.88	-	V
Reverse current @ rated V_R per diode ⁽²⁾	$T_J = 25^\circ\text{C}$	I_R	-	5	μA
	$T_J = 125^\circ\text{C}$		-	500	μA
Junction capacitance per diode	1MHz, $V_R = 4.0\text{V}$	C_J	68	-	pF

Notes:

1. Pulse test with $PW = 0.3\text{ms}$
2. Pulse test with $PW = 30\text{ms}$

ORDERING INFORMATION

ORDERING CODE ⁽¹⁾	PACKAGE	PACKING
GBU100x-K	GBU	20 / Tube

Notes:

1. "x" defines voltage from 600V(GBU1005-K) to 1000V(GBU1007-K)

CHARACTERISTICS CURVES

($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig.1 Forward Current Derating Curve

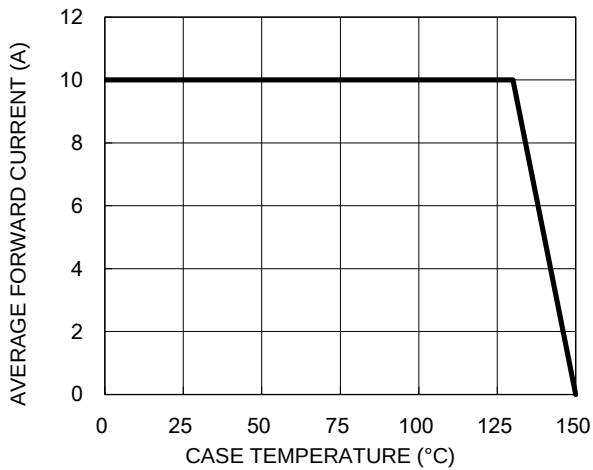


Fig.2 Typical Junction Capacitance

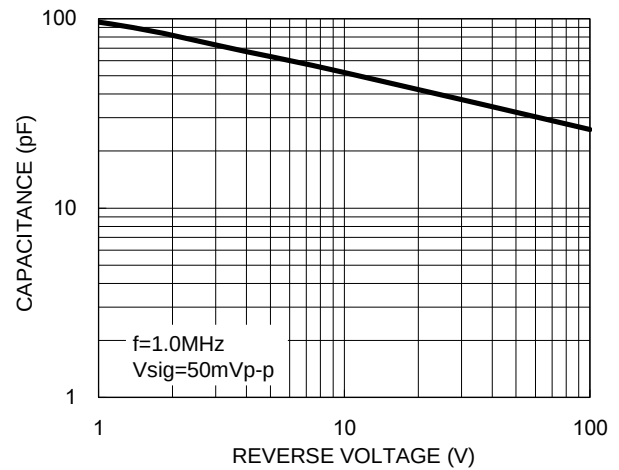


Fig.3 Typical Reverse Characteristics

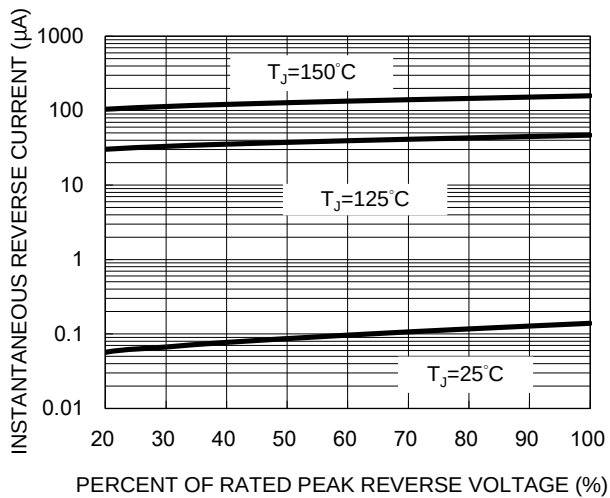
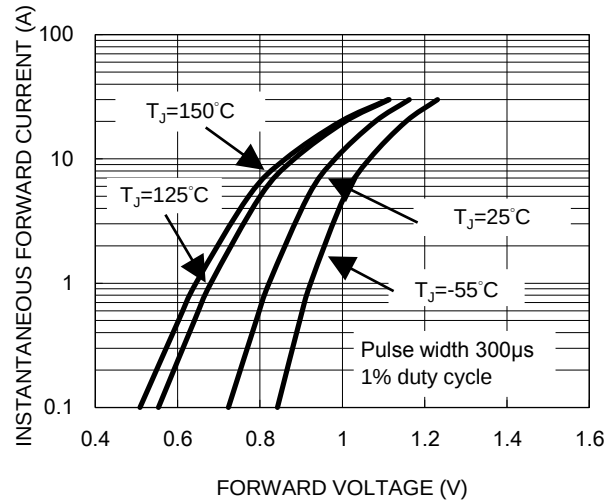
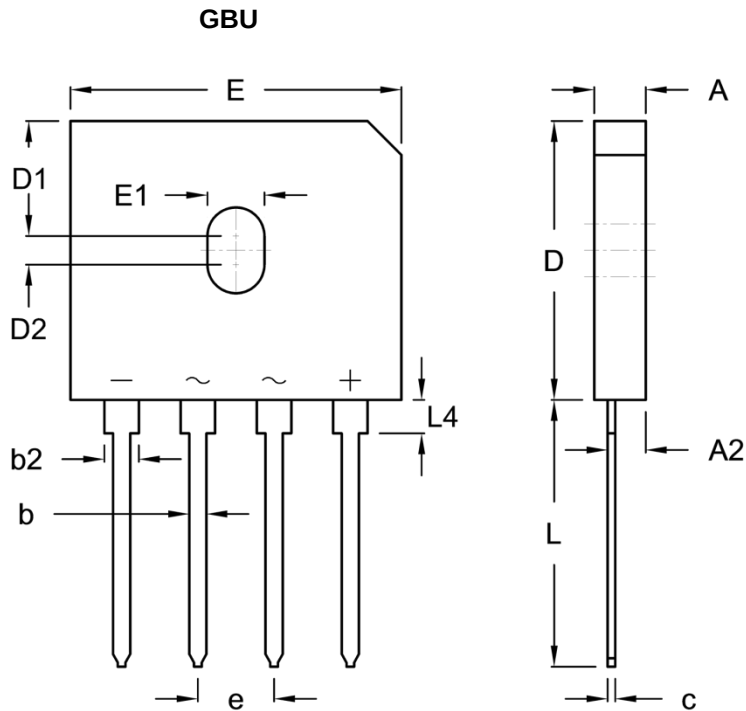


Fig.4 Typical Forward Characteristics



PACKAGE OUTLINE DIMENSIONS



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	3.30	3.56	0.130	0.140
A2	2.40	2.66	0.094	0.105
b	1.02	1.27	0.040	0.050
b2	2.06	2.54	0.081	0.100
c	0.46	0.56	0.018	0.022
D	18.30	18.80	0.720	0.740
D1	7.40	7.90	0.291	0.311
D2	1.65	2.16	0.065	0.085
E	21.80	22.30	0.858	0.878
E1	3.50	4.10	0.138	0.161
e	4.83	5.33	0.190	0.210
L	17.50	18.00	0.689	0.709
L4	1.91	2.54	0.075	0.100

MARKING DIAGRAM



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

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