

10A, 50V - 1000V Standard Bridge Rectifier

FEATURES

- AEC-Q101 qualified available
- Ideal for printed circuit board
- High case dielectric strength of 1500V_{RMS}
- High surge current capability
- Typical IR less than 0.1μA
- UL Recognized File # E-326243
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- Lighting application

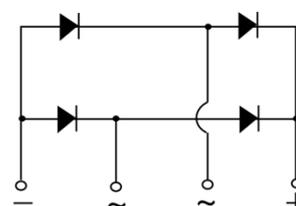
MECHANICAL DATA

- Case: GBU
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Polarity: As marked
- Weight: 4.00g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
I_F	10	A
V_{RRM}	50 - 1000	V
I_{FSM}	220	A
$T_{J\ MAX}$	150	°C
Package	GBU	
Configuration	Quad	



GBU



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

PARAMETER	SYMBOL	GBU 1001	GBU 1002	GBU 1003	GBU 1004	GBU 1005	GBU 1006	GBU 1007	UNIT
Marking code on the device		GBU 1001	GBU 1002	GBU 1003	GBU 1004	GBU 1005	GBU 1006	GBU 1007	
Repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Reverse voltage, total rms value	$V_{R(RMS)}$	35	70	140	280	420	560	700	V
Forward current	I_F	10							A
Surge peak forward current, 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	220							A
Rating for fusing ($t < 8.3\text{ms}$)	I^2t	200							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-ambient thermal resistance	$R_{\theta JA}$	21	°C/W
Junction-to-case thermal resistance	$R_{\theta JC}$	2	°C/W

ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ 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	-	1.0	V
	$I_F = 10\text{A}, T_J = 25^\circ\text{C}$		-	1.1	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	211	-	pF
			94	-	pF

Notes:

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

ORDERING INFORMATION

ORDERING CODE ⁽¹⁾⁽²⁾	PACKAGE	PACKING
GBU100x	GBU	20 / Tube
GBU100xH	GBU	20 / Tube

Notes:

1. "x" defines voltage from 50V(GBU1001) to 1000V(GBU1007)
2. "H" means AEC-Q101 qualified

CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

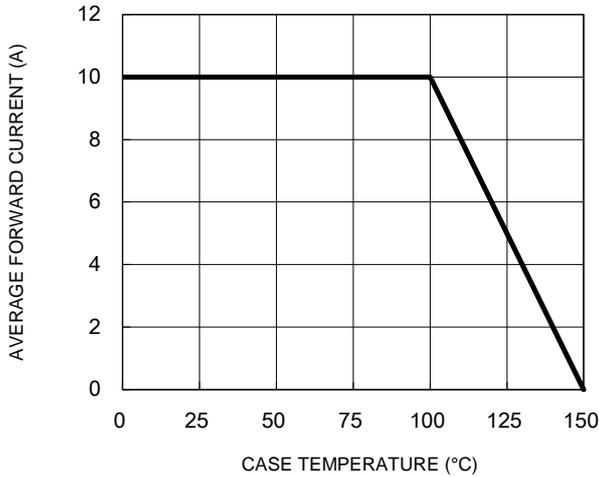


Fig.2 Typical Junction Capacitance

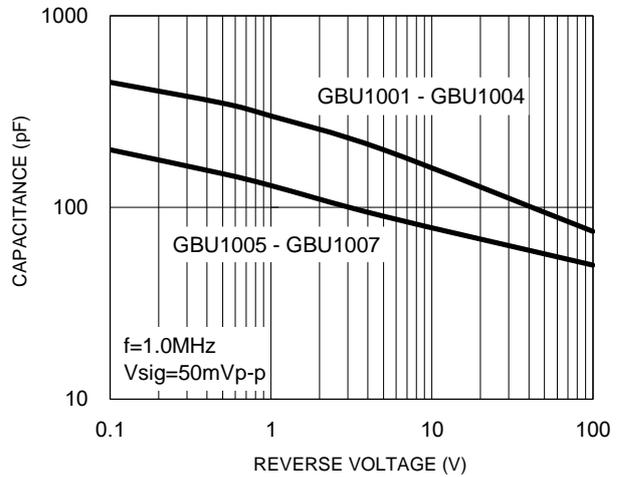


Fig.3 Typical Reverse Characteristics

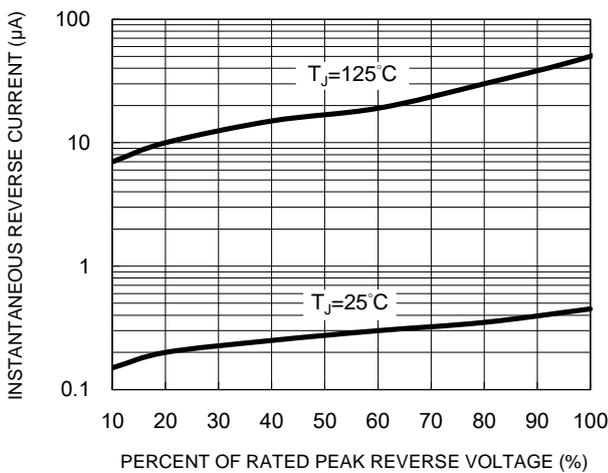


Fig.4 Typical Forward Characteristics

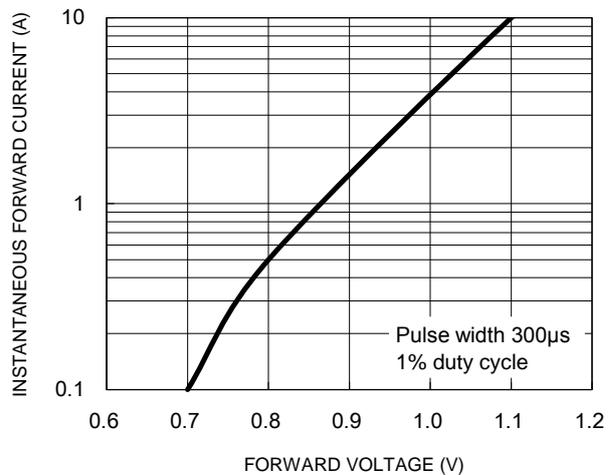
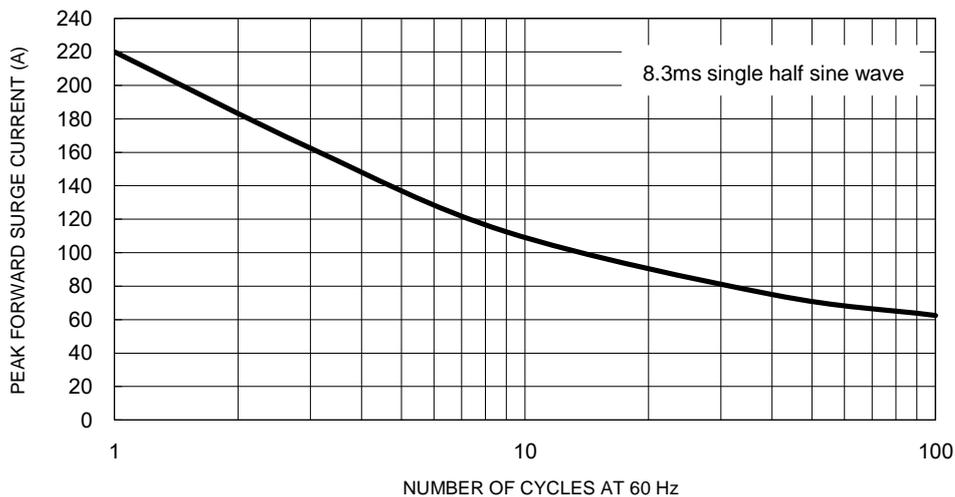
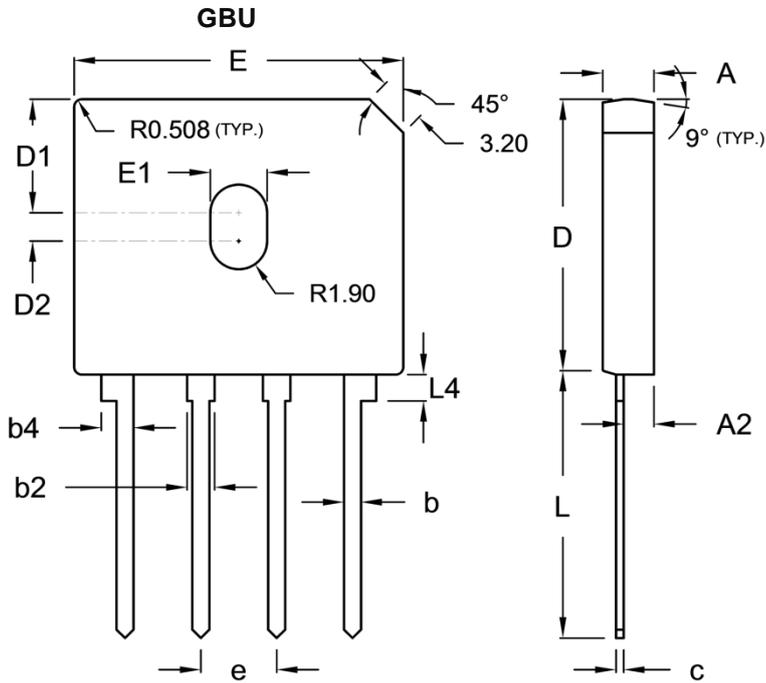


Fig.5 Maximum Non-Repetitive Forward Surge Current

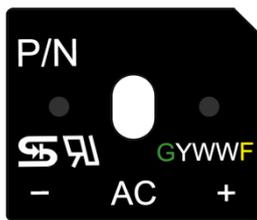


PACKAGE OUTLINE DIMENSIONS



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	3.30	3.56	0.130	0.140
A2	1.90	2.16	0.075	0.085
b	1.02	1.27	0.040	0.050
b2	1.65	2.03	0.065	0.080
b4	2.16	2.54	0.085	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	1.52	2.03	0.060	0.080

MARKING DIAGRAM



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

Notice

Specifications of the products displayed herein are subject to change without notice. TSC or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Purchasers are solely responsible for the choice, selection, and use of TSC products and TSC assumes no liability for application assistance or the design of Purchasers' products.

Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in TSC's terms and conditions of sale for such products, TSC assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of TSC products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify TSC for any damages resulting from such improper use or sale.