4A, 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
- UL Recognized File # E-326243
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

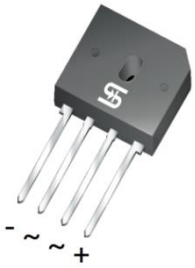
- Switching mode power supply (SMPS)
- Adapters
- Lighting application

MECHANICAL DATA

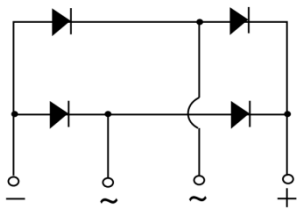
- Case: GBU
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Polarity: As marked
- Weight: 4.00g (approximately)

KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
I_F	4	A
V_{RRM}	50 - 1000	V
I_{FSM}	150	A
$T_{J\ MAX}$	150	°C
Package	GBU	
Configuration	Quad	

Pb-Free RoHS COMPLIANT HALOGEN FREE



GBU



ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)										
PARAMETER		**SYMBOL**	**GBU 401**	**GBU 402**	**GBU 403**	**GBU 404**	**GBU 405**	**GBU 406**	**GBU 407**	**UNIT**
Marking code on the device			GBU 401	GBU 402	GBU 403	GBU 404	GBU 405	GBU 406	GBU 407	
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	4							A
Surge peak forward current, 8.3ms single half sine-wave superimposed on rated load	T_J = 25°C	I_{FSM}	150							A
	T_J = 125°C		80							A
Surge peak forward current, 1.0ms single half sine-wave superimposed on rated load	T_J = 25°C	I_{FSM}	280							A
	T_J = 125°C		260							A

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

PARAMETER	SYMBOL	GBU 401	GBU 402	GBU 403	GBU 404	GBU 405	GBU 406	GBU 407	UNIT
Rating for fusing (t<8.3ms)	I^2t	93							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	$R_{\Theta JA}$	20	°C/W
Junction-to-case thermal resistance	$R_{\Theta JC}$	4	°C/W

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

PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage per diode[1]		I_F = 2A, T_J = 25°C	V_F	-	1.0	V
		I_F = 4A, 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 per diode	GBU401 GBU402 GBU403 GBU404	1MHz, V_R = 4.0V	C_J	100	-	pF
	GBU405 GBU406 GBU407			45	-	pF

Notes:

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

ORDERING INFORMATION

ORDERING CODE[1][2]	PACKAGE	PACKING
GBU40x	GBU	20 / Tube
GBU40xH	GBU	20 / Tube

Notes:

1. "x" defines voltage from 50V(GBU401) to 1000V(GBU407)
2. "H" means AEC-Q101 qualified

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

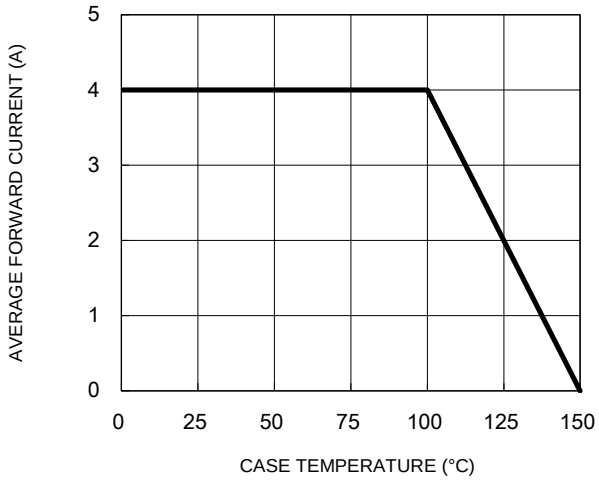


Fig.2 Typical Junction Capacitance

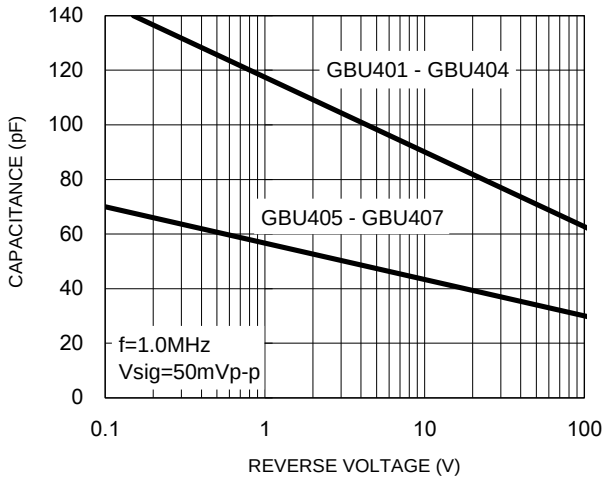


Fig.3 Typical Reverse Characteristics

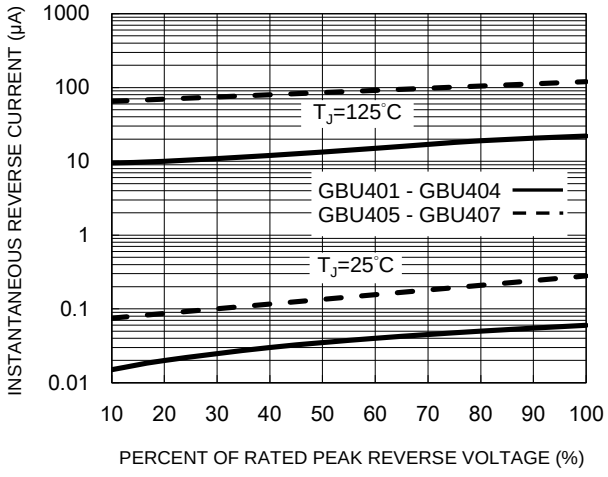


Fig.4 Typical Forward Characteristics

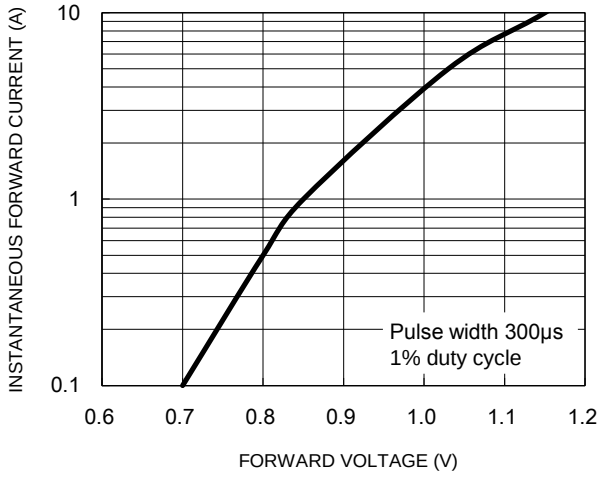
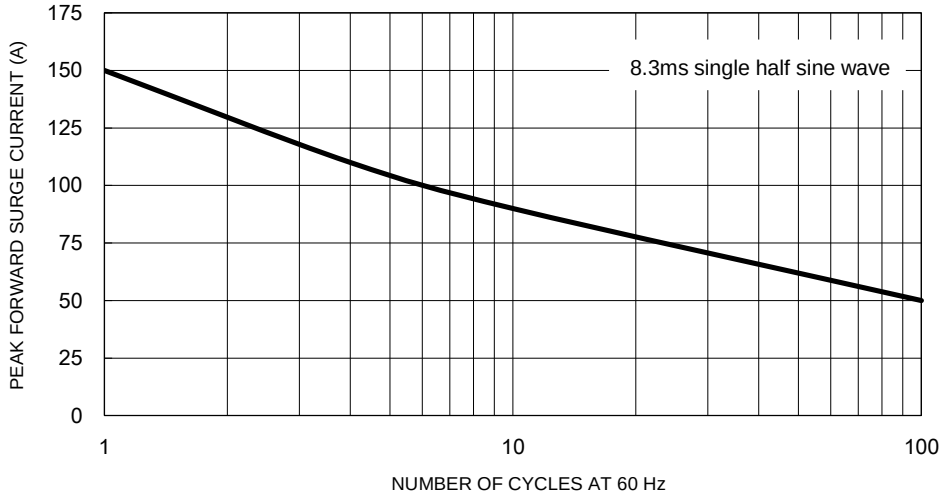
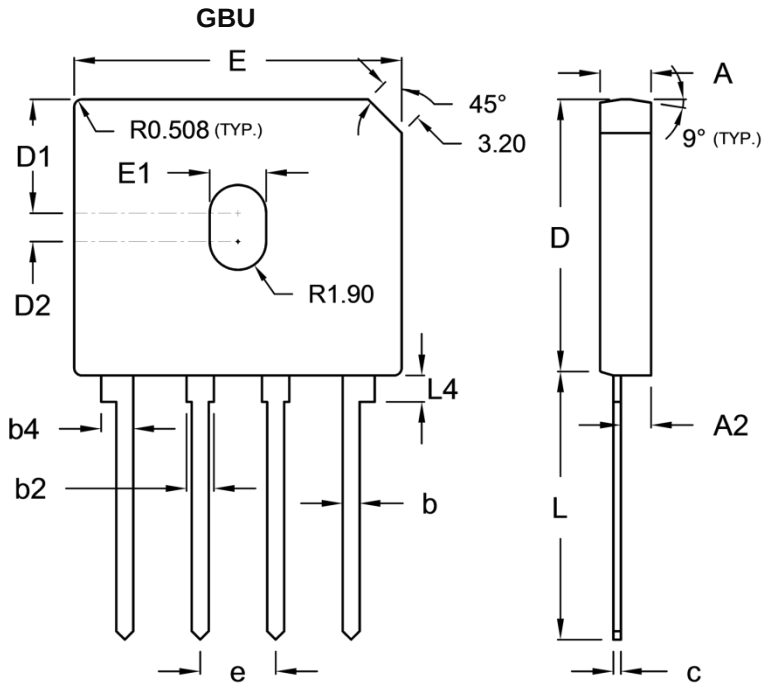


Fig.5 Maximum Non-Repetitive Forward Surge Current



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