

# 4A, 50V - 1000V Standard Bridge Rectifier

### **FEATURES**

- AEC-Q101 qualified available
- Ideal for printed circuit board
- High case dielectric strength of 1500V<sub>RMS</sub>
- 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)

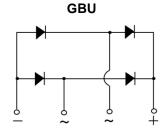
KEY PARAMETERS							
PARAMETER	VALUE	UNIT					
I <sub>F</sub>	4	Α					
$V_{RRM}$	50 - 1000	V					
I <sub>FSM</sub>	150	Α					
$T_{JMAX}$	150	°C					
Package	GBU						
Configuration	Quad						











ABSOLUTE MAXIMUM RATINGS (T <sub>A</sub> = 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 d	levice		GBU 401	GBU 402	GBU 403	GBU 404	GBU 405	GBU 406	GBU 407	
Repetitive peak revers	se voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Reverse voltage, total	rms value	V <sub>R(RMS)</sub>	35	70	140	280	420	560	700	V
Forward current		I <sub>F</sub>				4				Α
Surge peak forward current, 8.3ms single half sine-wave		1				150				А
superimposed on rated load	T <sub>J</sub> = 125°C	I <sub>FSM</sub>				80				А
Surge peak forward current, 1.0ms single half sine-wave	T <sub>J</sub> = 25°C	I				280				Α
superimposed on rated load	T <sub>J</sub> = 125°C	I <sub>FSM</sub>				260				А

ABSOLUTE MAXIMUM RATINGS (T <sub>A</sub> = 25°C unless otherwise noted)									
PARAMETER	SYMBOL	L GBU GBU GBU GBU GBU GBU GBU UU 401 402 403 404 405 406 407							UNIT
Rating for fusing (t<8.3ms)	l <sup>2</sup> t	93					A <sup>2</sup> s		
Junction temperature	TJ	- 55 to +150				°C			
Storage temperature	T <sub>STG</sub>	- 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 <sub>eJC</sub>	4	°C/W				

ELECTRICAL SPECIFICATIONS (T <sub>A</sub> = 25°C unless otherwise noted)								
PARAMETER	CONDITIONS SYMBOL		TYP	MAX	UNIT			
F		I <sub>F</sub> = 2A, T <sub>J</sub> = 25°C	V	-	1.0	V		
Forward voltage per diode <sup>(1)</sup>		$I_F = 4A, T_J = 25^{\circ}C$	V <sub>F</sub>	-	1.1	V		
D		T <sub>J</sub> = 25°C		-	5	μΑ		
Reverse current @ rated V <sub>R</sub> per	diode	T <sub>J</sub> = 125°C	- I <sub>R</sub>	-	500	μA		
Junction capacitance per diode	GBU401 GBU402 GBU403 GBU404		C₃	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 <sup>(1)(2)</sup>	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**

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

**Fig.1 Forward Current Derating Curve** 

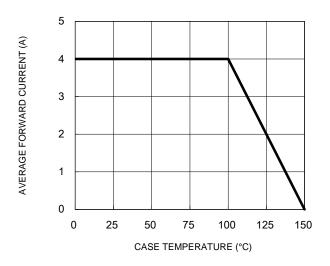


Fig.3 Typical Reverse Characteristics

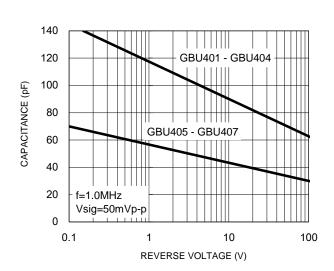
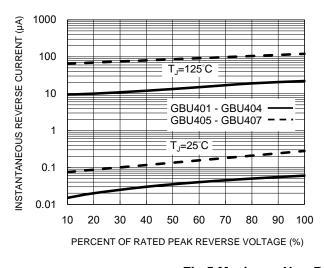


Fig.2 Typical Junction Capacitance

Fig.4 Typical Forward Characteristics



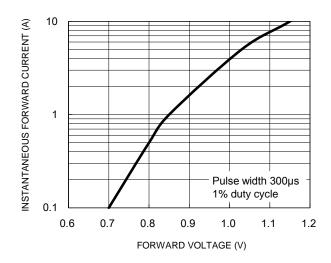
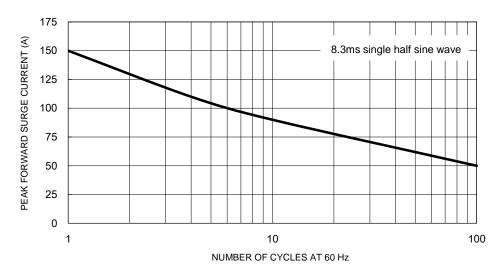


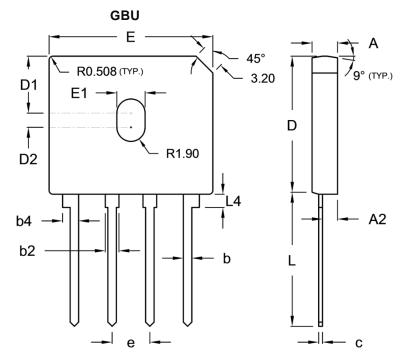
Fig.5 Maximum Non-Repetitive Forward Surge Current





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## **PACKAGE OUTLINE DIMENSIONS**



DIM.	Unit	(mm)	Unit (inch)		
Dilvi.	Min.	Min. Max.		Max.	
Α	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	
С	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	
е	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

= Factory Code



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