

## 15A, 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

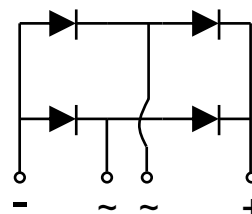
### MECHANICAL DATA

- 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
$I_F$	15	A
$V_{RRM}$	600 - 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	GBU1505	GBU1506	GBU1507	UNIT
Marking code on the device		GBU1505	GBU1506	GBU1507	
Repetitive peak reverse voltage	$V_{RRM}$	600	800	1000	V
Reverse voltage, total rms value	$V_{R(RMS)}$	420	560	700	V
Forward current	$I_F$	15			A
Surge peak forward current single half sine-wave superimposed on rated load per diode	$t = 8.3\text{ms}$	220			A
	$t = 1.0\text{ms}$				
Rating of fusing ( $t < 8.3\text{ms}$ )	$I^2t$	200			$\text{A}^2\text{s}$
Junction temperature	$T_J$	- 55 to +150			°C
Storage temperature	$T_{STG}$	- 55 to +150			°C

<b>THERMAL PERFORMANCE</b>			
<b>PARAMETER</b>	<b>SYMBOL</b>	<b>TYP</b>	<b>UNIT</b>
Junction-to-lead thermal resistance	$R_{\theta JL}$	1.5	°C/W
Junction-to-ambient thermal resistance	$R_{\theta JA}$	7.5	°C/W
Junction-to-case thermal resistance	$R_{\theta JC}$	1.0	°C/W

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

<b>ELECTRICAL SPECIFICATIONS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise noted)					
<b>PARAMETER</b>	<b>CONDITIONS</b>	<b>SYMBOL</b>	<b>TYP</b>	<b>MAX</b>	<b>UNIT</b>
Forward voltage per diode <sup>(1)</sup>	$I_F = 7.5\text{A}, T_J = 25^\circ\text{C}$	$V_F$	0.93	-	V
	$I_F = 15\text{A}, T_J = 25^\circ\text{C}$		1.00	1.10	V
	$I_F = 7.5\text{A}, T_J = 125^\circ\text{C}$		0.82	-	V
	$I_F = 15\text{A}, T_J = 125^\circ\text{C}$		0.92	-	V
Reverse current @ rated $V_R$ per diode <sup>(2)</sup>	$T_J = 25^\circ\text{C}$	$I_R$	-	5	$\mu\text{A}$
	$T_J = 125^\circ\text{C}$		-	500	$\mu\text{A}$
Junction capacitance per diode	1MHz, $V_R = 4.0\text{V}$	$C_J$	79	-	pF

**Notes:**

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

<b>ORDERING INFORMATION</b>		
<b>ORDERING CODE<sup>(1)</sup></b>	<b>PACKAGE</b>	<b>PACKING</b>
GBU150x	GBU	20 / Tube

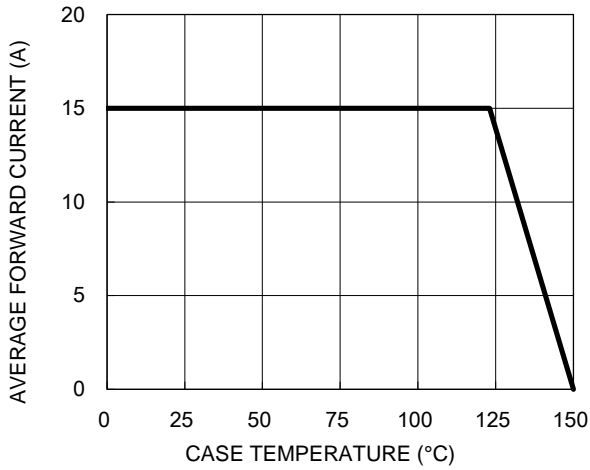
**Notes:**

1. "x" defines voltage from 600V(GBU1505) to 1000V(GBU1507)

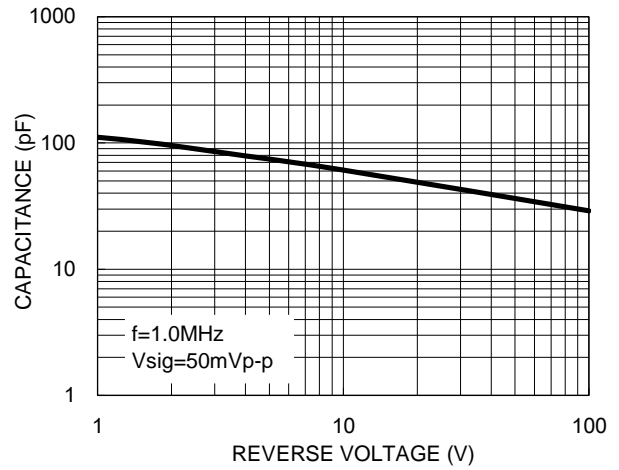
**CHARACTERISTICS CURVES**

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

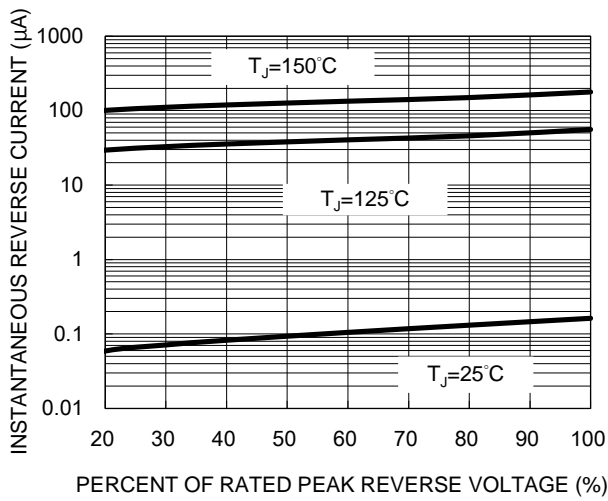
**Fig.1 Forward Current Derating Curve**



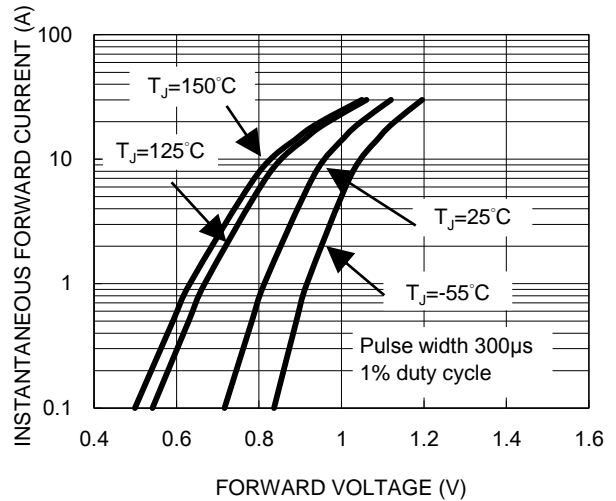
**Fig.2 Typical Junction Capacitance**



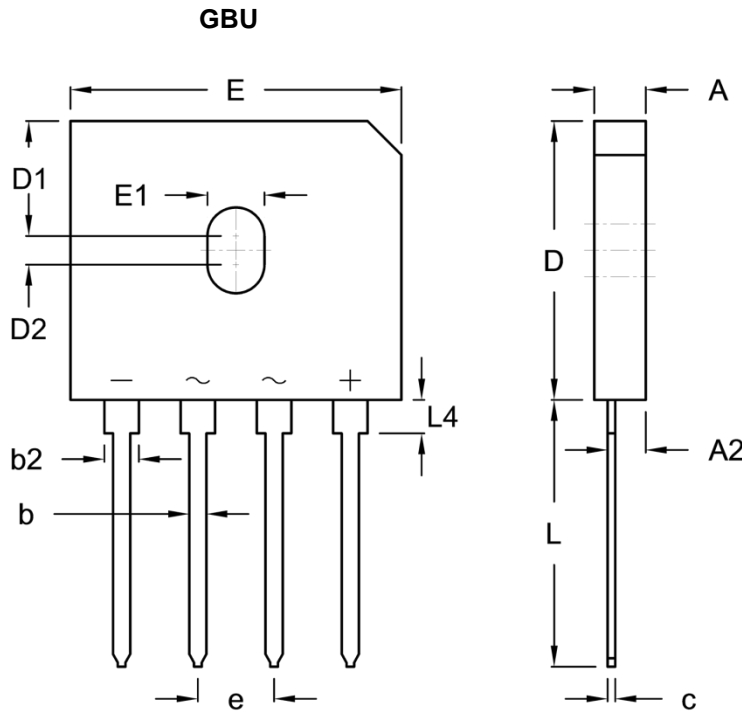
**Fig.3 Typical Reverse Characteristics**



**Fig.4 Typical Forward Characteristics**

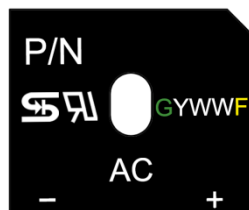


**PACKAGE OUTLINE DIMENSIONS**



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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