

## 25A, 400V - 1000V Standard Bridge Rectifier

### FEATURES

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

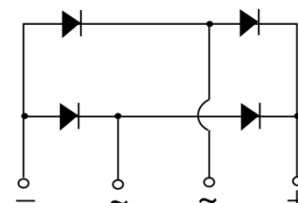
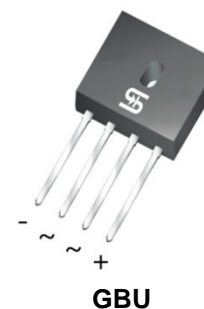
### APPLICATIONS

- 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
- Meet JESD 201 class 1A whisker test
- Mounting torque: 0.56 N·m maximum
- Polarity: As marked
- Weight: 4.00g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_F$	25	A
$V_{RRM}$	400 - 1000	V
$I_{FSM}$	300	A
$T_{J\ MAX}$	150	°C
Package	GBU	
Configuration	Quad	



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

PARAMETER	SYMBOL	GBU2504	GBU2505	GBU2506	GBU2507	UNIT
Marking code on the device		GBU2504	GBU2505	GBU2506	GBU2507	
Repetitive peak reverse voltage	$V_{RRM}$	400	600	800	1000	V
Reverse voltage, total rms value	$V_{R(RMS)}$	280	420	560	700	V
Forward current	$I_F$	25				A
Surge peak forward current, 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	300				A
Rating for fusing ( $t < 8.3\text{ms}$ )	$I^2t$	373				$\text{A}^2\text{s}$
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	$R_{\theta JL}$	1.3	°C/W
Junction-to-ambient thermal resistance	$R_{\theta JA}$	6.7	°C/W
Junction-to-case thermal resistance	$R_{\theta JC}$	1.0	°C/W

**Thermal Performance Note:** Mounted on heat sink size of 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>	$I_F = 12.5\text{A}, T_J = 25^\circ\text{C}$	$V_F$	0.99	1.10	V
	$I_F = 25.0\text{A}, T_J = 25^\circ\text{C}$		1.08	1.20	V
	$I_F = 12.5\text{A}, T_J = 125^\circ\text{C}$		0.89	1.00	V
	$I_F = 25.0\text{A}, T_J = 125^\circ\text{C}$		1.03	1.15	V
Reverse current @ rated $V_R$ per diode <sup>(2)</sup>	$T_J = 25^\circ\text{C}$	$I_R$	-	10	$\mu\text{A}$
	$T_J = 125^\circ\text{C}$		-	500	$\mu\text{A}$
Junction capacitance per diode	1MHz, $V_R = 4.0\text{V}$	$C_J$	100	-	pF

**Notes:**

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

<b>ORDERING INFORMATION</b>		
<b>ORDERING CODE<sup>(1)</sup></b>	<b>PACKAGE</b>	<b>PACKING</b>
GBU25x	GBU	20 / Tube

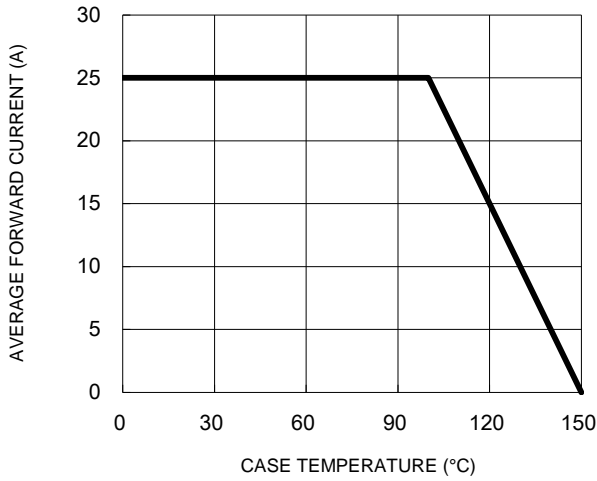
**Notes:**

1. "x" defines voltage from 400V(GBU2504) to 1000V(GBU2507)

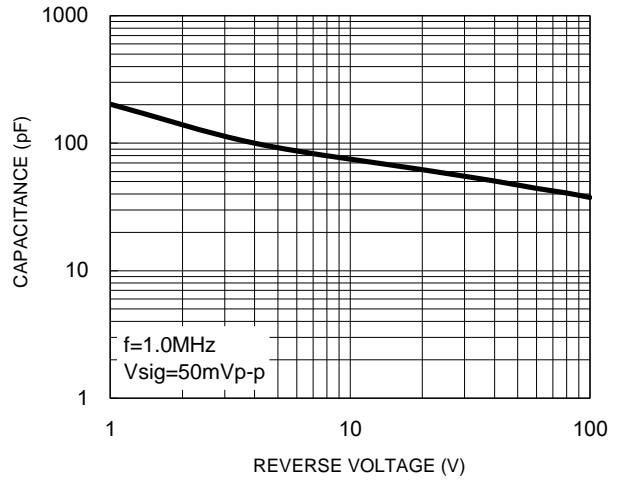
**CHARACTERISTICS CURVES**

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

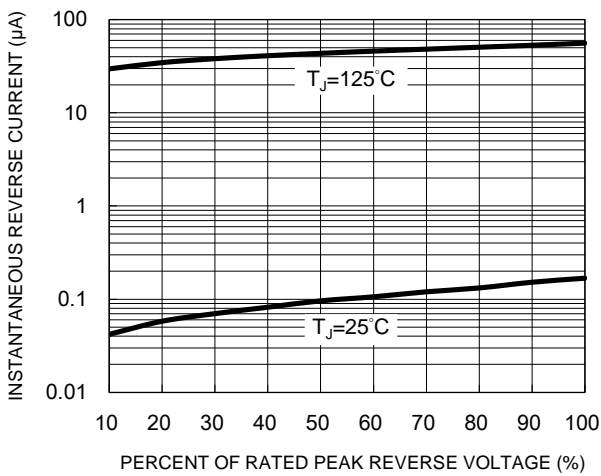
**Fig.1 Forward Current Derating Curve**



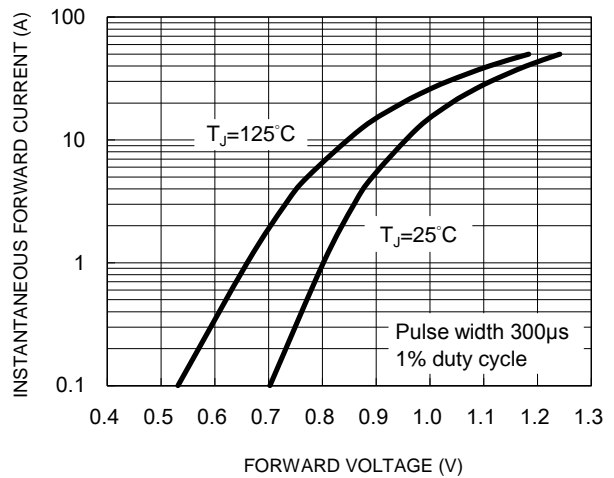
**Fig.2 Typical Junction Capacitance**



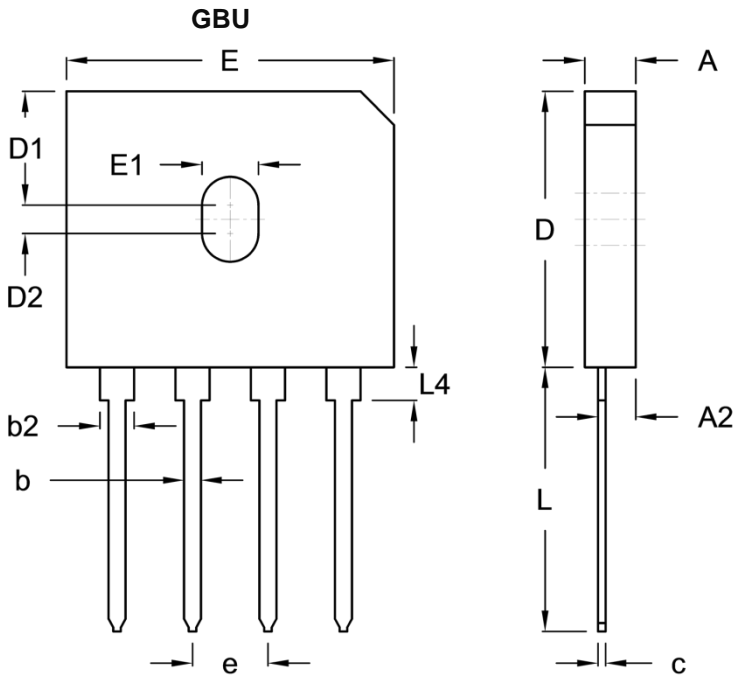
**Fig.3 Typical Reverse Characteristics**



**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

## **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.