

25A, 400V - 1000V Glass Passivated Single-Phase Bridge Rectifier

FEATURES

- Ideal for printed circuit board
- High surge current capability
- Low forward drop enhance the efficiency
- UL Recognized File # E-326243
- Compliant to RoHS directive 2011/65/EU and in accordance to WEEE 2002/96/EC

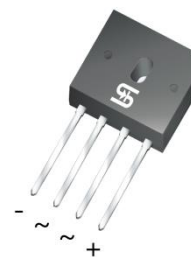
APPLICATIONS

- General purpose single phase bridge rectifier
- Switching mode power supply (SMPS)
- Adapters
- TV
- Monitor

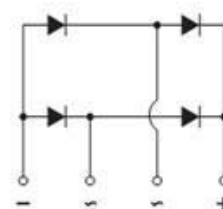
MECHANICAL DATA

- Case: GBU
- Molding compound: UL flammability classification rating 94V-0
- Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Mounting torque: 0.56 Nm max
- Polarity: As marked
- Weight: 4g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_{F(AV)}$	25	A
V_{RRM}	400 - 1000	V
I_{FSM}	300	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	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	$I_{F(AV)}$	25				A
Surge peak forward current, 8.3 ms single half sine-wave superimposed on rated load per diode	I_{FSM}	300				A
I^2t value (of a surge on-state current)	I^2t	373				A ² s
Junction temperature	T_J	-55 to +150				°C
Storage temperature	T_{STG}	-55 to +150				°C

THERMAL PERFORMANCE

PARAMETER	SYMBOL	LIMIT	UNIT
Junction-to-lead thermal resistance	$R_{\theta JL}$	6	$^{\circ}\text{C/W}$
Junction-to-ambient thermal resistance	$R_{\theta JA}$	22	$^{\circ}\text{C/W}$
Junction-to-case thermal resistance	$R_{\theta JC}$	7	$^{\circ}\text{C/W}$

Thermal Performance Note: Mounted on Heat sink Size of 4"x6"x0.25" Al -Plate.

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

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage per diode ⁽¹⁾	$I_F = 12.5\text{A}, T_J = 25^{\circ}\text{C}$	V_F	0.99	1.10	V
	$I_F = 25\text{A}, T_J = 25^{\circ}\text{C}$		1.08	1.20	V
	$I_F = 12.5\text{A}, T_J = 125^{\circ}\text{C}$		0.89	1.00	V
	$I_F = 25\text{A}, T_J = 125^{\circ}\text{C}$		1.03	1.15	V
Reverse current @ rated V_R per diode ⁽²⁾	$T_J = 25^{\circ}\text{C}$	I_R	-	10	μA
	$T_J = 125^{\circ}\text{C}$		-	500	μA
Junction capacitance	1 MHz, $V_R = 4.0\text{V}$	C_J	100	-	pF

Note:

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

ORDERING INFORMATION

PART NO.	PACKING CODE	PACKAGE	PACKING
GBU250x (Note 1)	D2	GBU	20 / Tube

Note:

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

EXAMPLE

EXAMPLE P/N	PART NO.	PACKING CODE	DESCRIPTION
GBU2504 D2	GBU2504	D2	

CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

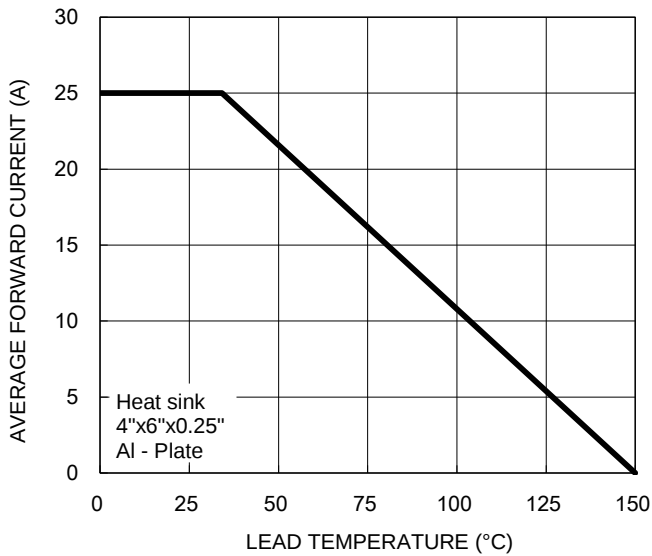


Fig.2 Typical Junction Capacitance

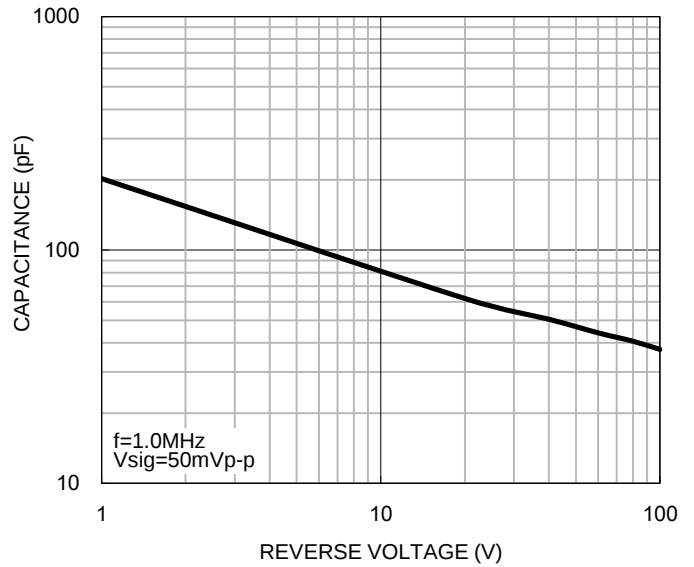


Fig.3 Typical Reverse Characteristics

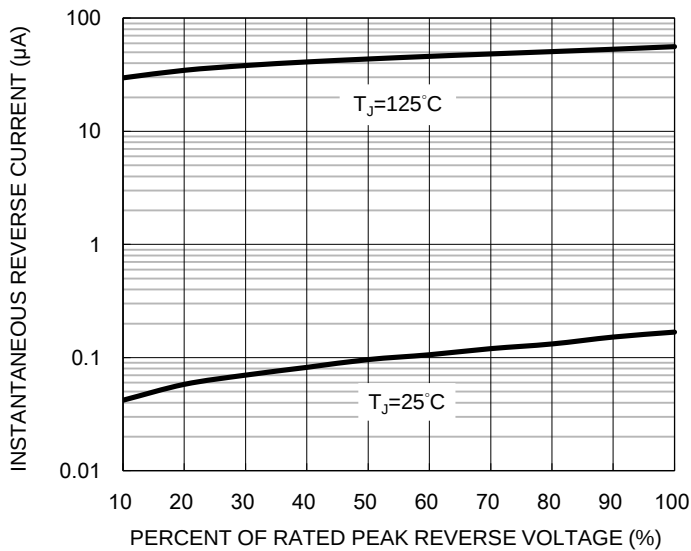
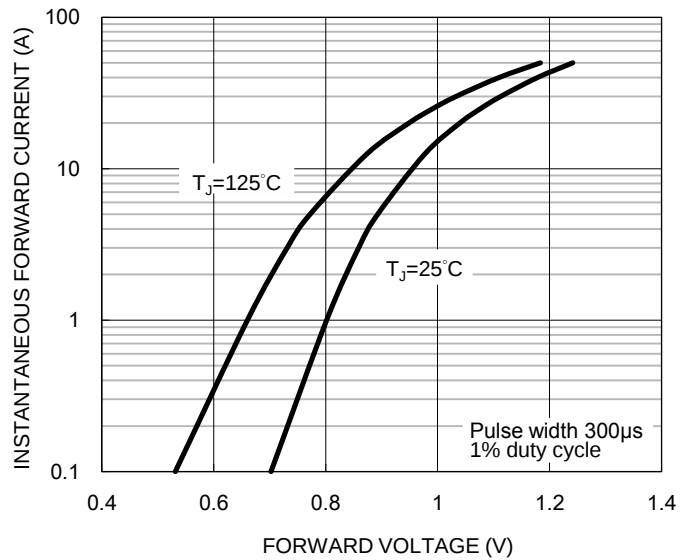
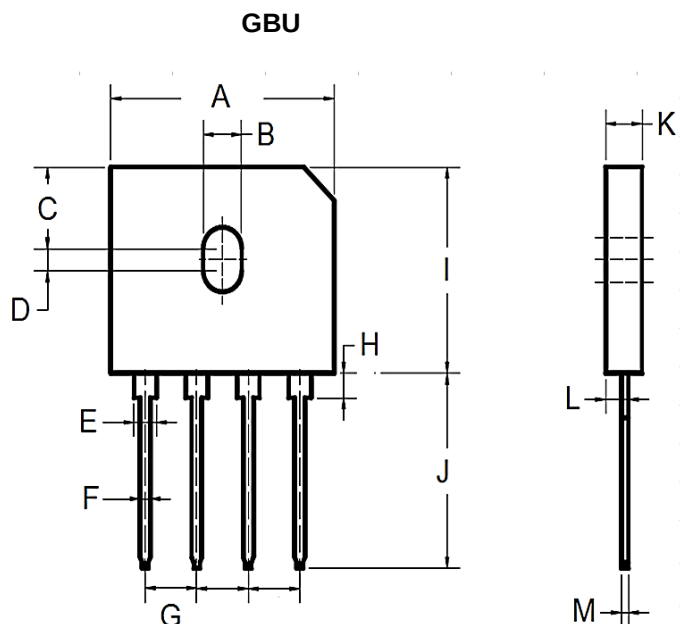


Fig.4 Typical Forward Characteristics



PACKAGE OUTLINE DIMENSIONS



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	21.80	22.30	0.858	0.878
B	3.50	4.10	0.138	0.161
C	7.40	7.90	0.291	0.311
D	1.65	2.16	0.065	0.085
E	2.06	2.54	0.081	0.100
F	1.02	1.27	0.040	0.050
G	4.83	5.33	0.190	0.210
H	1.91	2.54	0.075	0.100
I	18.30	18.80	0.720	0.740
J	17.50	18.00	0.689	0.709
K	3.30	3.56	0.130	0.140
L	2.40	2.66	0.094	0.105
M	0.46	0.56	0.018	0.022

MARKING DIAGRAM



P/N = Marking code
YWW = Date Code
F = Factory Code

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