

## 10A, 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

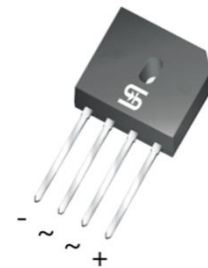
### APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- TV
- Monitor

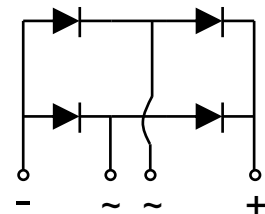
### MECHANICAL DATA

- 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
$I_F$	10	A
$V_{RRM}$	600 - 1000	V
$I_{FSM}$	200	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	GBU1005-K	GBU1006-K	GBU1007-K	UNIT
Marking code on the device		GBU1005	GBU1006	GBU1007	
Repetitive peak reverse voltage	$V_{RRM}$	600	800	1000	V
Reverse voltage, total rms value	$V_{R(RMS)}$	420	560	700	V
Forward current	$I_F$	10			A
Surge peak forward current single half sine-wave superimposed on rated load per diode	$t = 8.3\text{ms}$	$I_{FSM}$	200		A
	$t = 1.0\text{ms}$		550		
Rating of fusing ( $t < 8.3\text{ms}$ )	$I^2t$	166			$\text{A}^2\text{s}$
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	$R_{\theta JL}$	1.7	°C/W
Junction-to-ambient thermal resistance	$R_{\theta JA}$	7.6	°C/W
Junction-to-case thermal resistance	$R_{\theta JC}$	1.2	°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>	$I_F = 5\text{A}, T_J = 25^\circ\text{C}$	$V_F$	0.92	-	V
	$I_F = 10\text{A}, T_J = 25^\circ\text{C}$		0.98	1.10	V
	$I_F = 5\text{A}, T_J = 125^\circ\text{C}$		0.80	-	V
	$I_F = 10\text{A}, T_J = 125^\circ\text{C}$		0.88	-	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, $V_R = 4.0\text{V}$	$C_J$	68	-	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</b> <sup>(1)</sup>	<b>PACKAGE</b>	<b>PACKING</b>
GBU100x-K	GBU	20 / Tube

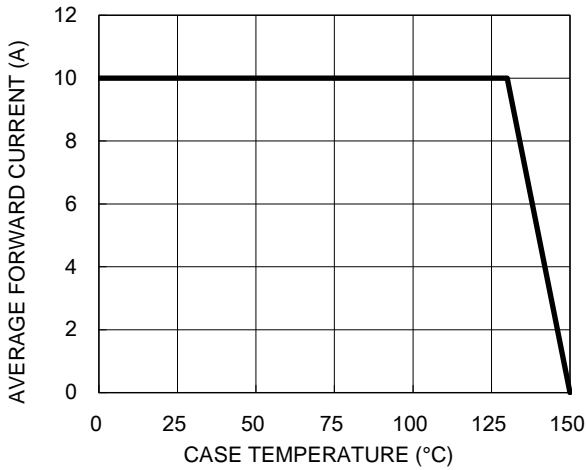
**Notes:**

1. "x" defines voltage from 600V(GBU1005-K) to 1000V(GBU1007-K)

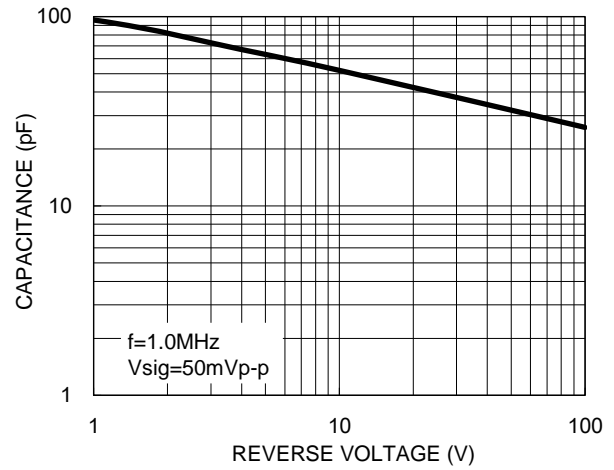
**CHARACTERISTICS CURVES**

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

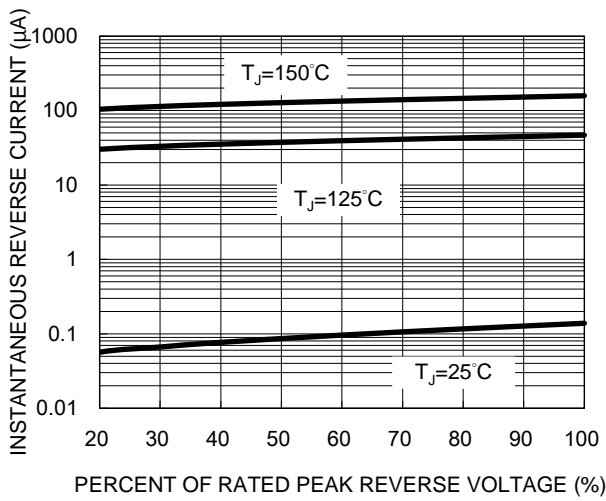
**Fig.1 Forward Current Derating Curve**



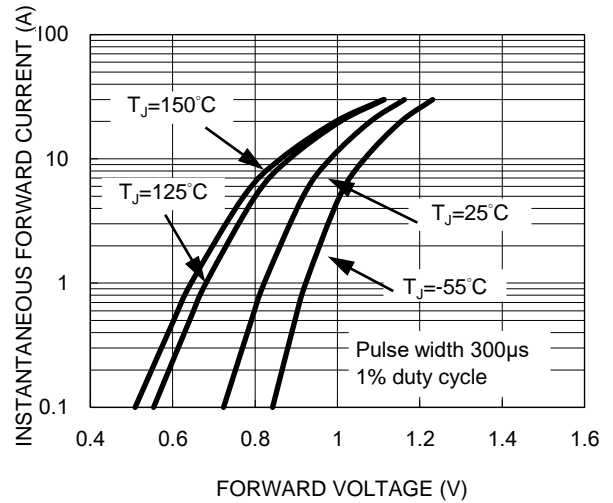
**Fig.2 Typical Junction Capacitance**



**Fig.3 Typical Reverse Characteristics**

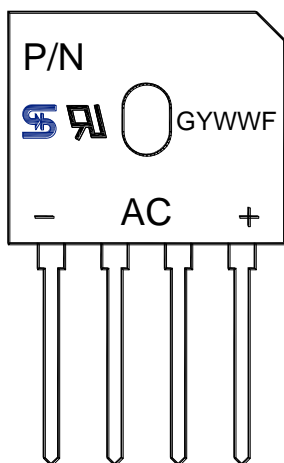
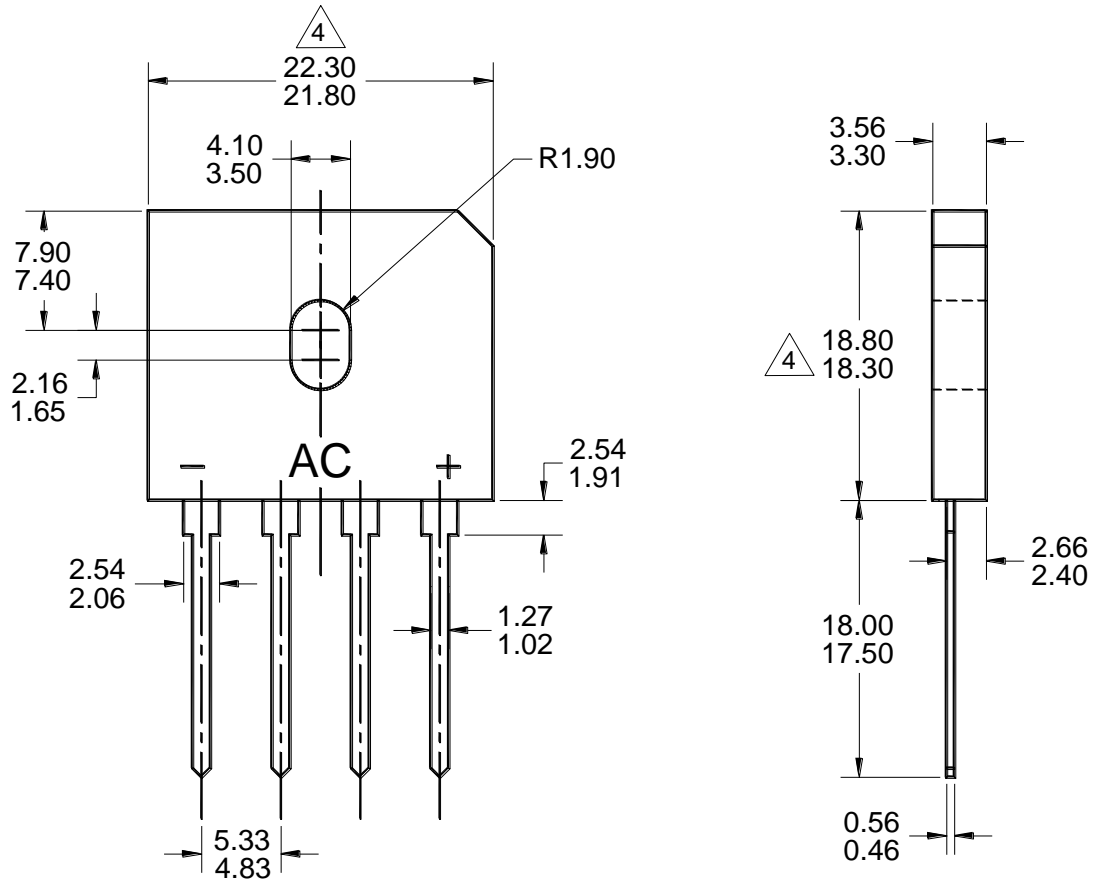


**Fig.4 Typical Forward Characteristics**



**PACKAGE OUTLINE DIMENSIONS**


**GBU**



**MARKING DIAGRAM**

P/N = MARKING CODE  
 G = GREEN COMPOUND  
 YWW = DATE CODE  
 F = FACTORY CODE

**NOTES: UNLESS OTHERWISE SPECIFIED**

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DIMENSIONING AND TOLERANCING PER ASME Y14.5M-1994.
3. THERE IS NO EXISTING PACKAGE OUTLINE INDUSTRY STANDARD FOR THIS PACKAGE.
4.  MOLDED PLASTIC BODY DIMENSIONS DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.
5. DWG NO. REF: HQ2SD07-GBUK-102 REV A.

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