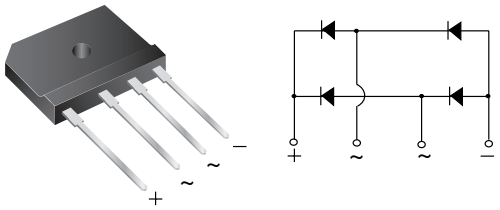
Single-Phase Single In-Line Bridge Rectifiers



Case Style GSIB-5S

FEATURES

- UL Recognition file number E54214
- Thin Single In-Line package
- Glass passivated chip junction
- High surge current capability
- High case dielectric strength of 2500 V_{RMS}
- Solder Dip 260 °C, 40 seconds
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

TYPICAL APPLICATIONS

General purpose use in ac-to-dc bridge full wave rectification for Switching Power Supply, Home Appliances, Office Equipment, Industrial Automation applications.

MAJOR RATINGS AND CHARACTERISTICS	
$I_{F(AV)}$	15 A
V_{RRM}	200 V to 800 V
I_{FSM}	300 A
I_R	10 µA
V_F	0.95 V
T_j max.	150 °C

MECHANICAL DATA

Case: GSIB-5S

Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002B and JESD22-B102D
E3 suffix for commercial grade

Polarity: As marked on body

Mounting Torque: 10 cm-kg (8.8 inches-lbs) max.

Recommended Torque: 5.7 cm-kg (5 inches-lbs)

MAXIMUM RATINGS (T_A = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	GSIB1520	GSIB1540	GSIB1560	GSIB1580	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	200	400	600	800	V
Maximum RMS voltage	V_{RMS}	140	280	420	560	V
Maximum DC blocking voltage	V_{DC}	200	400	600	800	V
Maximum average forward rectified output current at T_C = 107 °C / T_A = 25 °C	$I_{F(AV)}$	15 (1) / 3.5 (2)				A
Peak forward surge current single sine-wave superimposed on rated load	I_{FSM}	300				A
Rating for fusing (t < 8.3 ms)	I^2t	240				A^2sec
Operating junction and storage temperature range	T_J, T_{STG}	- 55 to + 150				°C

Note:

(1) Unit case mounted on Al plate heatsink

(2) Units mounted on P.C.B. without heatsink

ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)							
PARAMETER	**TEST CONDITIONS**	**SYMBOL**	**GSIB1520**	**GSIB1540**	**GSIB1560**	**GSIB1580**	**UNIT**
Maximum instantaneous forward voltage drop per diode	at 7.5 A	V_F	0.95				V
Maximum DC reverse current at rated DC blocking voltage per diode	T_A = 25 °C T_A = 125 °C	I_R	10 250				µA

THERMAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)						
PARAMETER	**SYMBOL**	**GSIB1520**	**GSIB1540**	**GSIB1560**	**GSIB1580**	**UNIT**
Typical thermal resistance	$R_{\theta JA}$ $R_{\theta JC}$	22 (2) 1.5 (1)				°C/W

Note:

(1) Unit case mounted on Al plate heatsink

(2) Units mounted on P.C.B. without heatsink

(3) Recommended mounting position is to bolt down on heatsink with silicone thermal compound for maximum heat transfer with #6 screw

ORDERING INFORMATION				
PREFERRED P/N	**UNIT WEIGHT (g)**	**PREFERRED PACKAGE CODE**	**BASE QUANTITY**	**DELIVERY MODE**
GSIB1560-E3/45	7.0	45	20	Tube

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

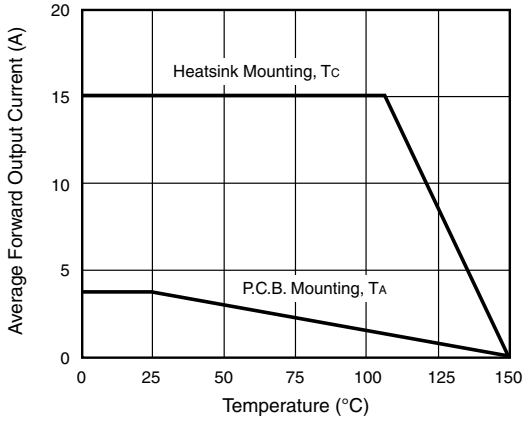


Figure 1. Derating Curve Output Rectified Current

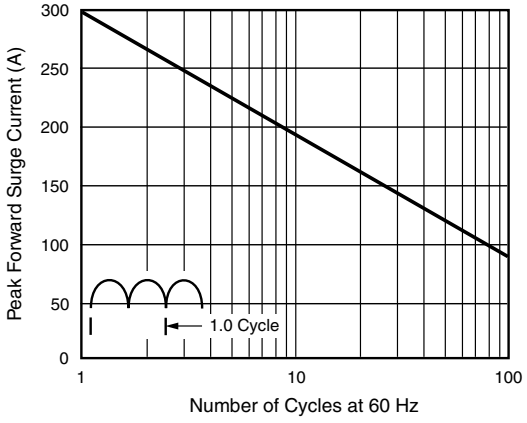


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Diode

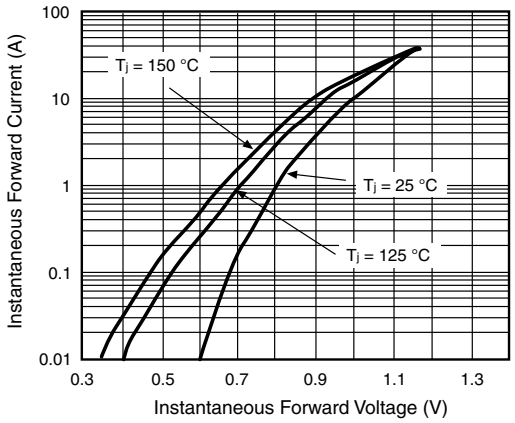


Figure 3. Typical Forward Characteristics Per Diode

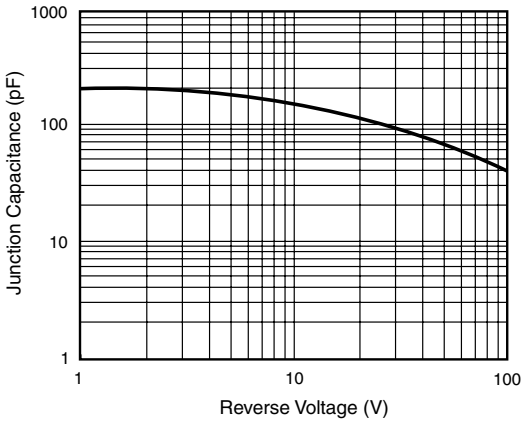


Figure 5. Typical Junction Capacitance Per Diode

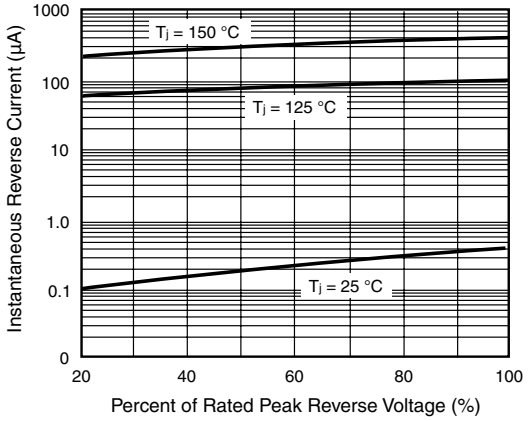


Figure 4. Typical Reverse Characteristics Per Diode

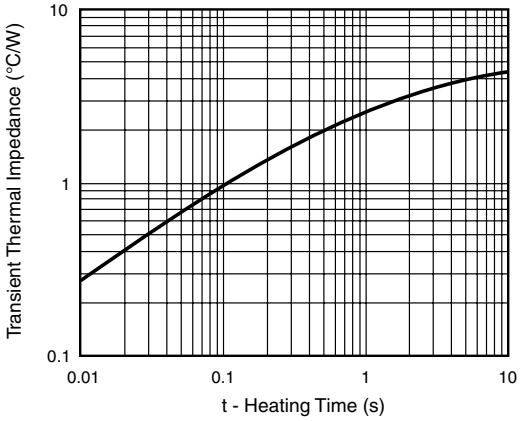
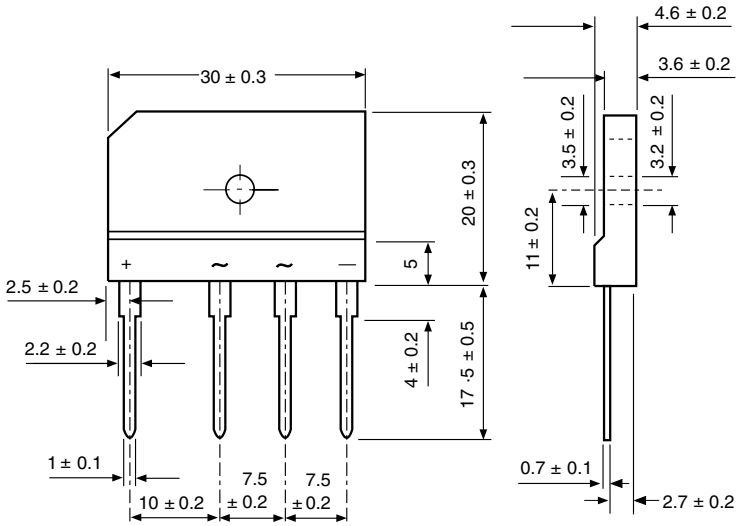


Figure 6. Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in millimeters

Case Style 5S



Notice

Specifications of the products displayed herein are subject to change without notice. Vishay Intertechnology, Inc., or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Vishay's terms and conditions of sale for such products, Vishay assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of Vishay 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 Vishay for any damages resulting from such improper use or sale.