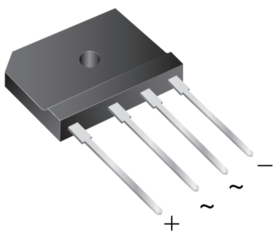
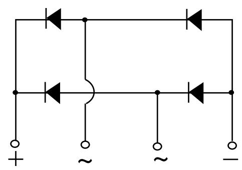
Single-Phase Single In-Line Bridge Rectifiers





Case Style GSIB-5S

PRIMARY CHARACTERISTICS	
Package	GSIB-5S
$I_{F(AV)}$	15 A
V_{RRM}	200 V, 400 V, 600 V, 800 V
I_{FSM}	300 A
I_R	10 μA
V_F at I_F = 7.5 V	0.95 V
T_J max.	150 °C
Diode variations	In-Line

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 275 °C max. 10 s, per JESD 22-B106
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT

TYPICAL APPLICATIONS

General purpose use in AC/DC bridge full wave rectification for switching power supply, home appliances, office equipment, industrial automation applications.

MECHANICAL DATA

Case: GSIB-5S
Molding compound meets UL 94 V-0 flammability rating
Base P/N-E3 - RoHS-compliant, commercial grade

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102
E3 suffix meets JESD 201 class 1A whisker test

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 (1)	$I_{F(AV)}$	15				A
	T_A = 25 °C (2)		3.5				
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^2s
Operating junction and storage temperature range		T_J, T_{STG}	- 55 to + 150				°C

Notes
(1) Unit case mounted on aluminum plate heatsink
(2) Units mounted on PCB 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	7.5 A	V_F	0.95				V
Maximum DC reverse current at rated DC blocking voltage per diode	T_A = 25 °C	I_R	10				μA
	T_A = 125 °C		250				

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

Notes
(1) Unit case mounted on aluminum plate heatsink
(2) Units mounted on PCB 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 (Example)				
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)

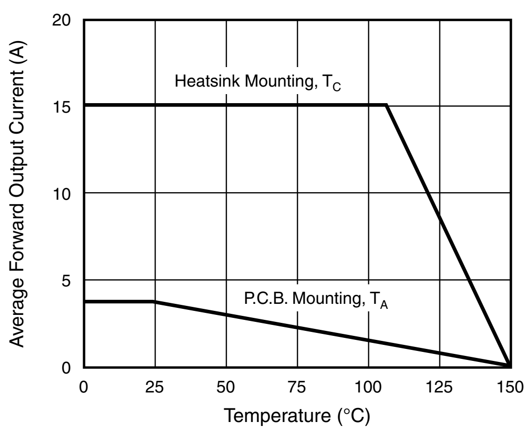


Fig. 1 - Derating Curve Output Rectified Current

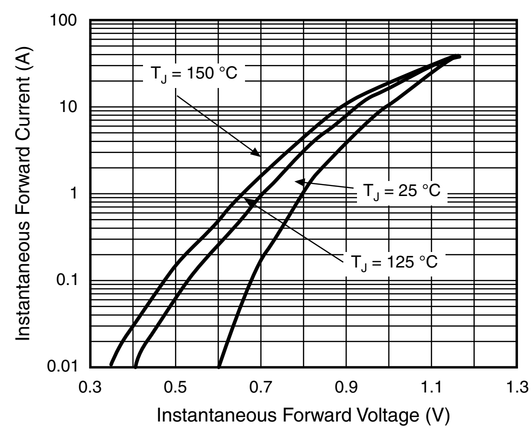


Fig. 3 - Typical Forward Characteristics Per Diode

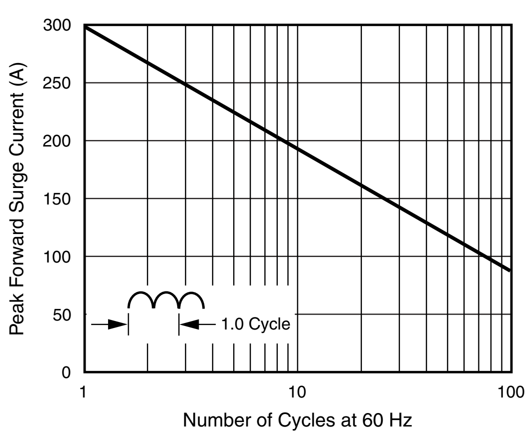


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

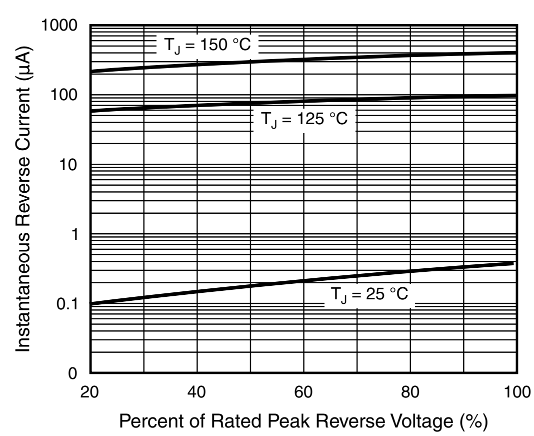


Fig. 4 - Typical Reverse Characteristics Per Diode

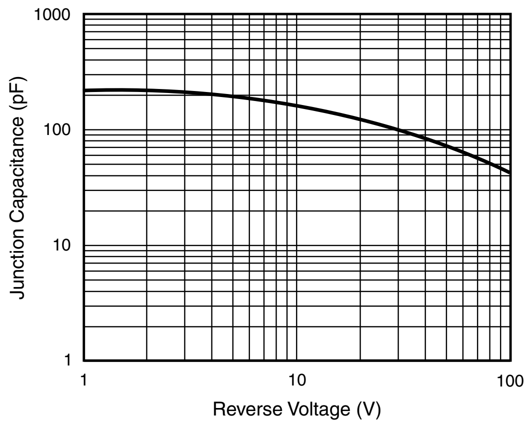


Fig. 5 - Typical Junction Capacitance Per Diode

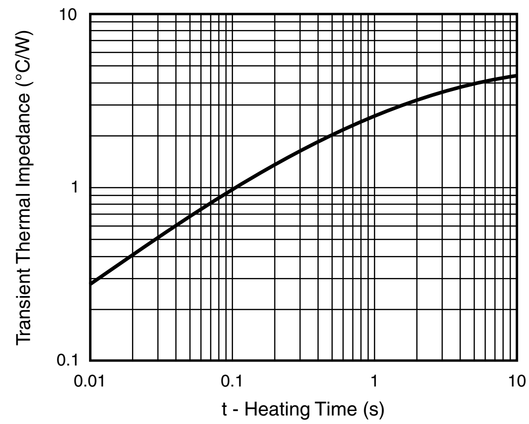
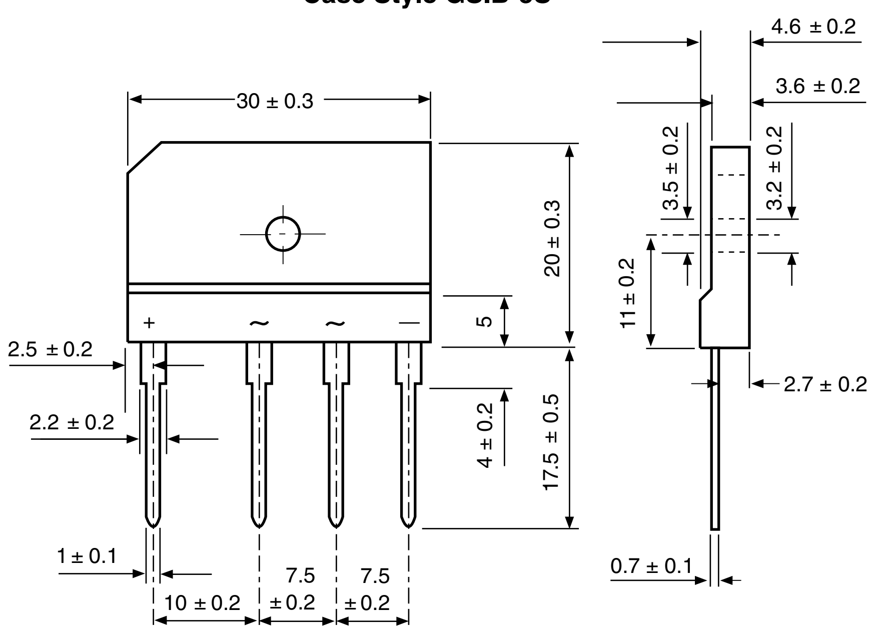


Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in millimeters

Case Style GSIB-5S



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