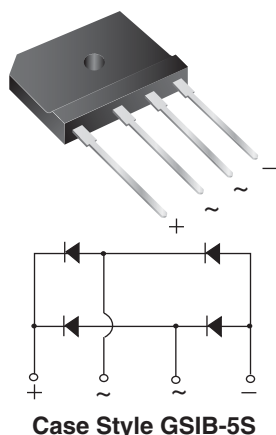




Single-Phase Single In-Line Bridge Rectifiers



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 s
- 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

Epoxy meets UL 94 V-0 flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 suffix for consumer grade, 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)

PRIMARY CHARACTERISTICS

Package	GSIB-5S
$I_{F(AV)}$	25 A
V_{RRM}	200 V, 400 V, 600 V, 800 V
I_{FSM}	350 A
I_R	10 μ A
V_F at $I_F = 12.5$ A	1.0 V
T_J max.	150 °C
Diode variations	In-Line

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

PARAMETER	SYMBOL	VSIB2520	VSIB2540	VSIB2560	VSIB2580	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 $T_C = 98$ °C (1) $T_A = 25$ °C (2)	$I_{F(AV)}$	25				A
		3.5				
Peak forward surge current single sine-wave superimposed on rated load	I_{FSM}	350				A
Rating for fusing ($t < 8.3$ ms)	I^2t	500				A ² s
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	VSIB2520	VSIB2540	VSIB2560	VSIB2580	UNIT
Maximum instantaneous forward voltage drop per diode	12.5 A	V _F	1.00				V
Maximum DC reverse current at rated DC blocking voltage per diode	T _A = 25 °C	I _R	10				μA
	T _A = 125 °C		350				

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

PARAMETER	SYMBOL	VSIB2520	VSIB2540	VSIB2560	VSIB2580	UNIT
Typical thermal resistance	R _{θJA}	22 ⁽²⁾				°C/W
	R _{θJC}	1.0 ⁽¹⁾				

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
VSIB2560-E3/45	7.0	45	20	Tube

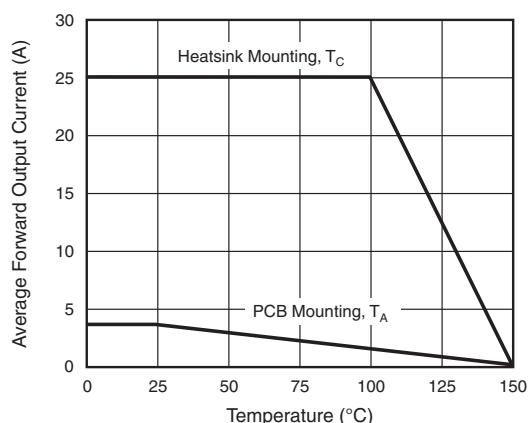
RATINGS AND CHARACTERISTICS CURVES ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

Fig. 1 - Derating Curve Output Rectified Current

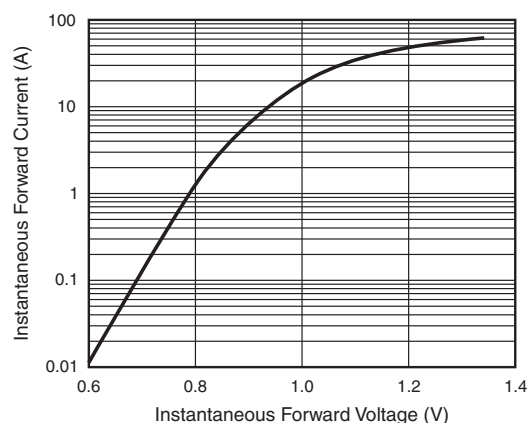


Fig. 3 - Typical Forward Characteristics Per Diode

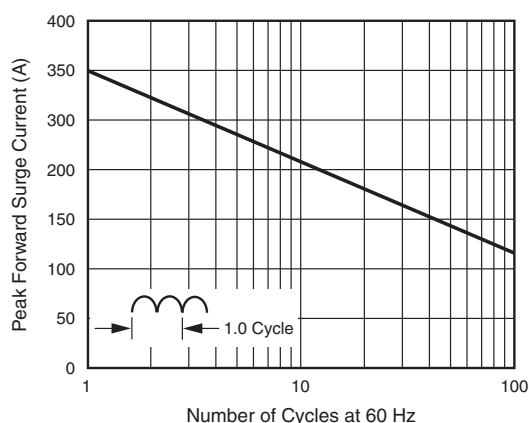


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

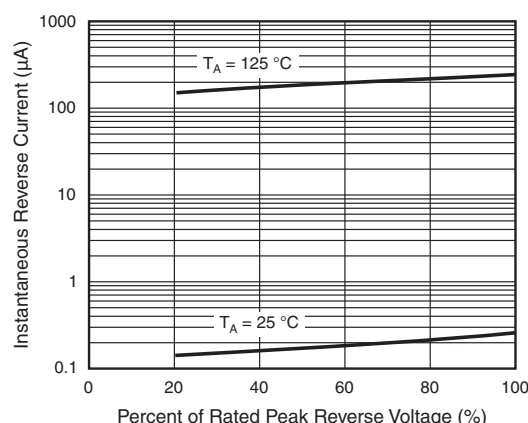


Fig. 4 - Typical Reverse Characteristics Per Diode

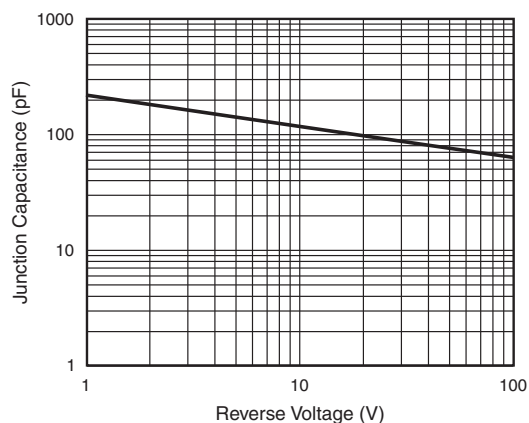


Fig. 5 - Typical Junction Capacitance Per Diode

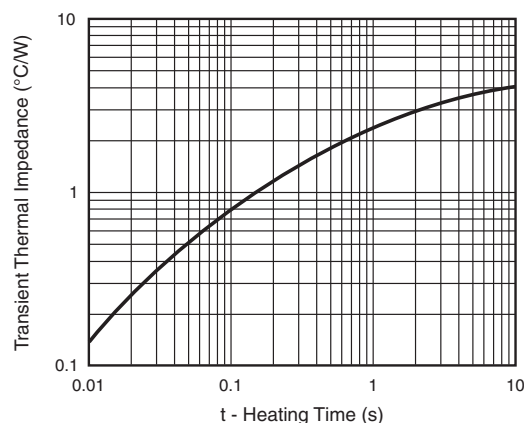
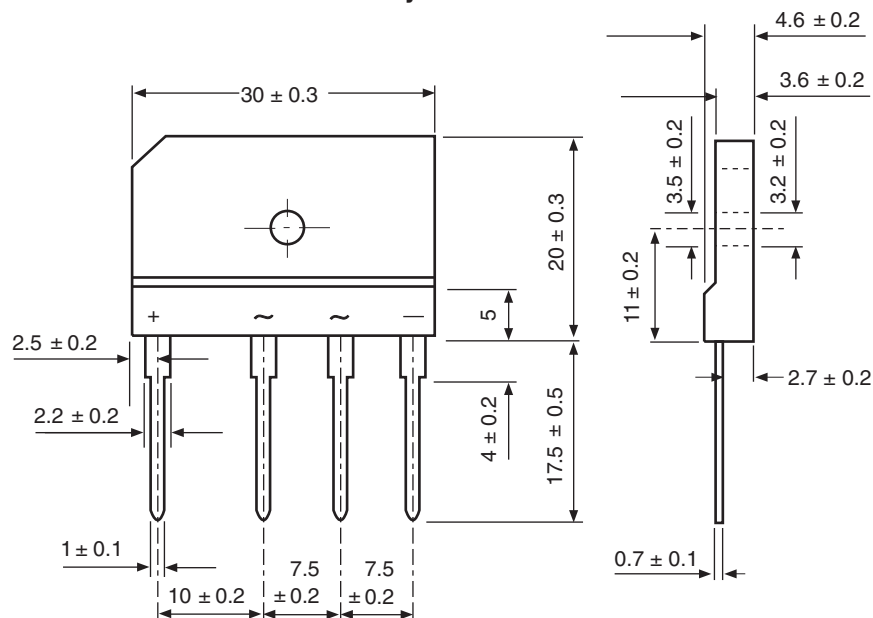


Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in millimeters

Case Style GSIB-5S





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