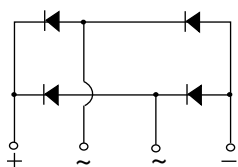
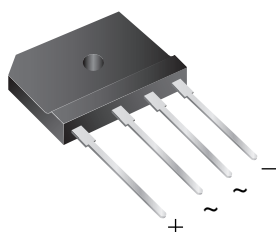




Single-Phase Single In-Line Bridge Rectifiers



Case Style GSIB-5S

LINKS TO ADDITIONAL RESOURCES



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
HALOGEN
FREE

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-M3 - halogen-free, RoHS-compliant, and commercial grade

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

M3 suffix meets JESD 201 class 1A whisker test

Polarity: as marked on body

Mounting Torque: 10 cm·kg (8.8 in·lbs) maximum

Recommended Torque: 5.7 cm·kg (5 in·lbs)

PRIMARY CHARACTERISTICS

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

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

PARAMETER	SYMBOL	GSIB1520N	GSIB1540N	GSIB1560N	GSIB1580N	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	I _{F(AV)} ⁽¹⁾	15			A
	T _A = 25 °C	I _{F(AV)} ⁽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 ² t	240				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	GSIB1520N	GSIB1540N	GSIB1560N	GSIB1580N	UNIT
Maximum instantaneous forward voltage drop per diode	I _F = 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 ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	GSIB1520N	GSIB1540N	GSIB1560N	GSIB1580N	UNIT
Maximum thermal resistance	R _{θJA} ⁽²⁾	22				°C/W
	R _{θJC} ⁽¹⁾	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
GSIB1560N-M3/45	7.0	45	20	Tube

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

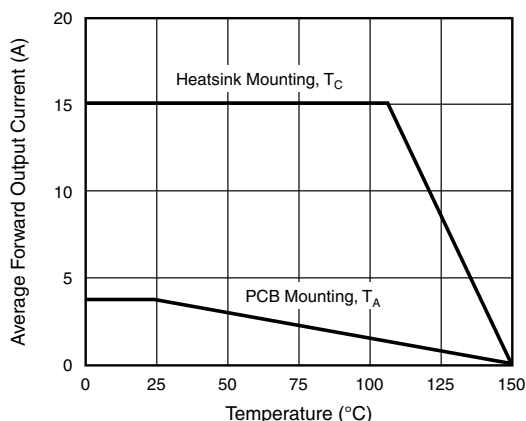


Fig. 1 - Derating Curve Output Rectified Current

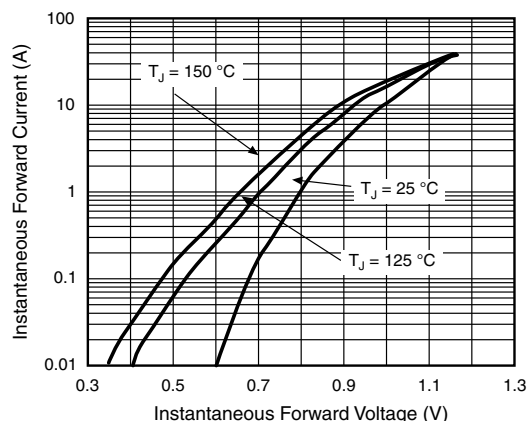


Fig. 3 - Typical Forward Characteristics Per Diode

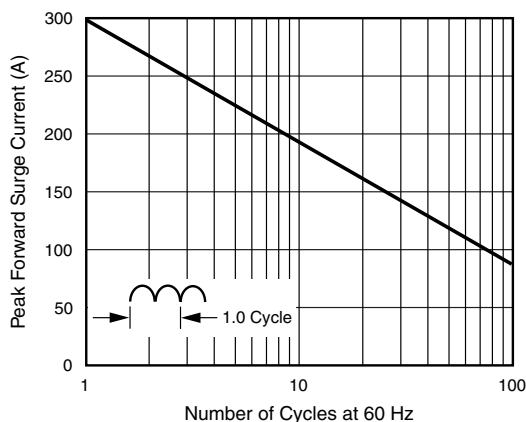


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

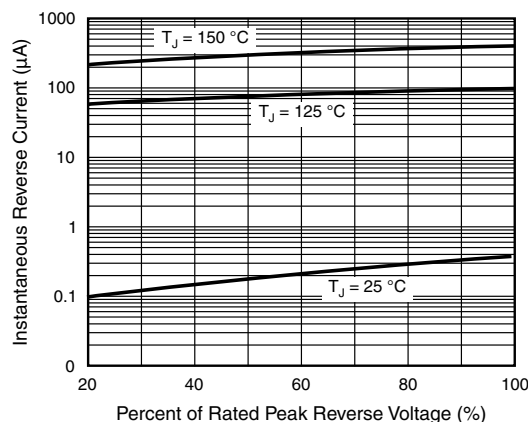


Fig. 4 - Typical Reverse Characteristics Per Diode

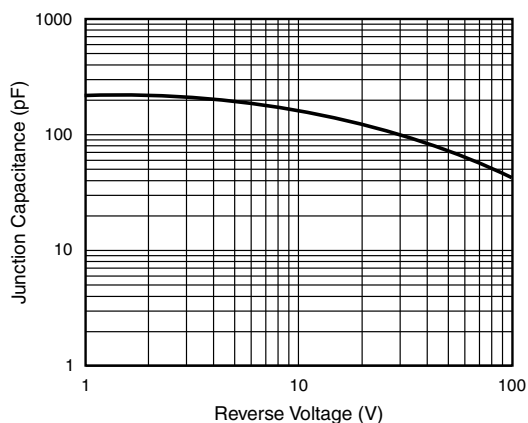


Fig. 5 - Typical Junction Capacitance Per Diode

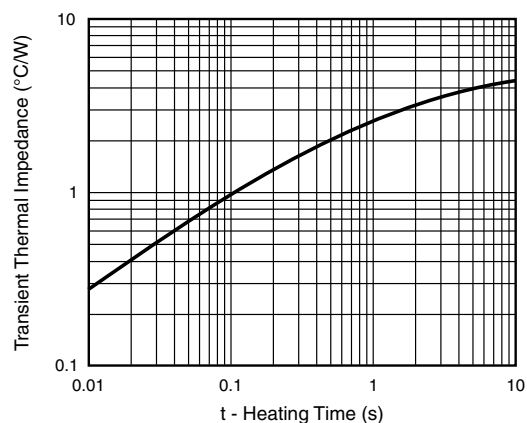
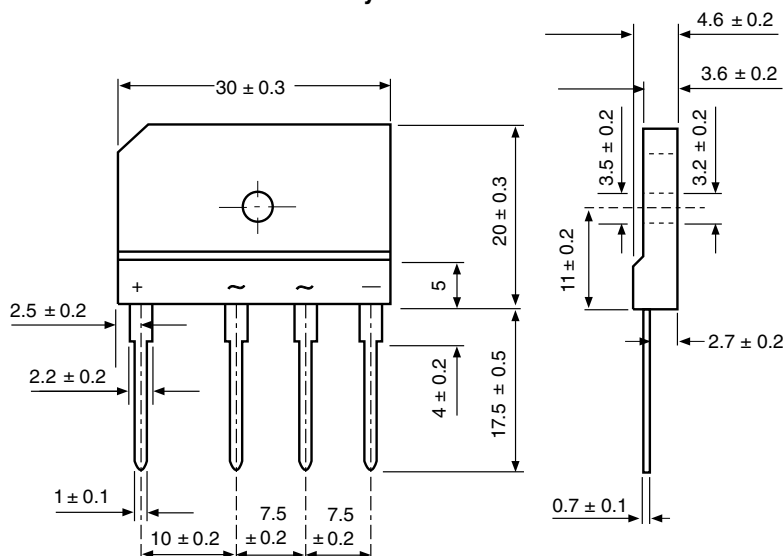


Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

Case Style GSIB-5S





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