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[GSIB1520N-M3/45](#)

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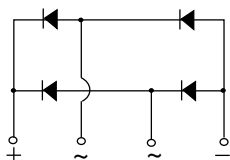
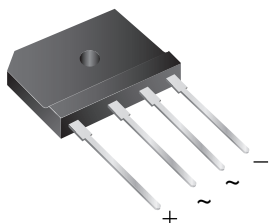


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# GSIB1520N, GSIB1540N, GSIB1560N, GSIB1580N

Vishay General Semiconductor

## 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<sub>RMS</sub>
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: For definitions of compliance please see [www.vishay.com/doc?99912](http://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.

PRIMARY CHARACTERISTICS	
Package	GSIB-5S
I <sub>F(AV)</sub>	15 A
V <sub>RRM</sub>	200 V, 400 V, 600 V, 800 V
I <sub>FSM</sub>	300 A
I <sub>R</sub>	10 μA
V <sub>F</sub> at I <sub>F</sub> = 7.5 A	0.95 V
T <sub>J</sub> max.	150 °C
Diode variations	In-Line

### 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)

MAXIMUM RATINGS (T <sub>A</sub> = 25 °C unless otherwise noted)						
PARAMETER	SYMBOL	GSIB1520N	GSIB1540N	GSIB1560N	GSIB1580N	UNIT
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	200	400	600	800	V
Maximum RMS voltage	V <sub>RMS</sub>	140	280	420	560	V
Maximum DC blocking voltage	V <sub>DC</sub>	200	400	600	800	V
Maximum average forward rectified output current at	T <sub>C</sub> = 107 °C	I <sub>F(AV)</sub> <sup>(1)</sup>				A
	T <sub>A</sub> = 25 °C	I <sub>F(AV)</sub> <sup>(2)</sup>				
Peak forward surge current single sine-wave superimposed on rated load	I <sub>FSM</sub>	300				A
Rating for fusing (t < 8.3 ms)	I <sup>2</sup> t	240				A <sup>2</sup> s
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	- 55 to + 150				°C

### Notes

<sup>(1)</sup> Unit case mounted on aluminum plate heatsink

<sup>(2)</sup> Units mounted on PCB without heatsink



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ELECTRICAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)							
PARAMETER	TEST CONDITIONS	SYMBOL	GSIB1520N	GSIB1540N	GSIB1560N	GSIB1580N	UNIT
Maximum instantaneous forward voltage drop per diode	I <sub>F</sub> = 7.5 A	V <sub>F</sub>	0.95				V
Maximum DC reverse current at rated DC blocking voltage per diode	T <sub>A</sub> = 25 °C	I <sub>R</sub>	10				μA
	T <sub>A</sub> = 125 °C		250				

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)							
PARAMETER	SYMBOL	GSIB1520N	GSIB1540N	GSIB1560N	GSIB1580N	UNIT	
Maximum thermal resistance	R <sub>θJA</sub> <sup>(2)</sup>	22				°C/W	
	R <sub>θJC</sub> <sup>(1)</sup>	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<sub>A</sub> = 25 °C unless otherwise noted)**

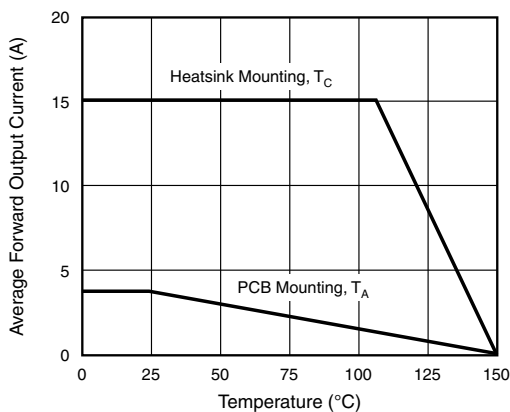


Fig. 1 - Derating Curve Output Rectified Current

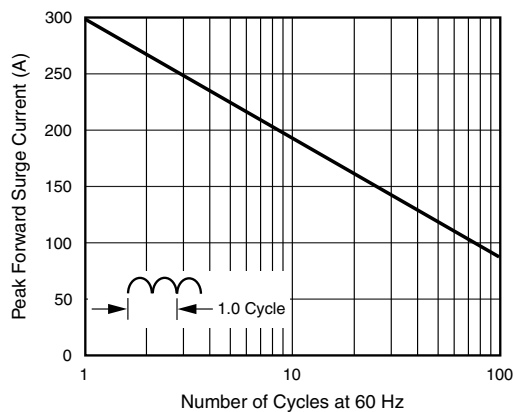


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode



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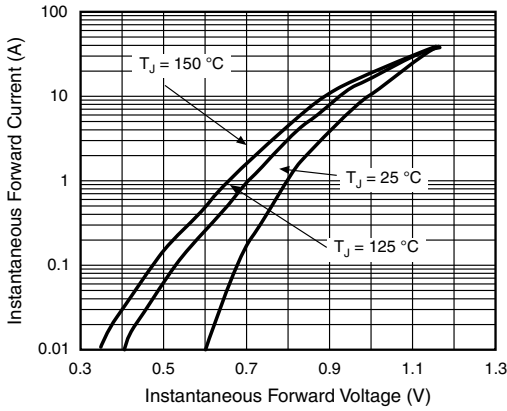


Fig. 3 - Typical Forward Characteristics Per Diode

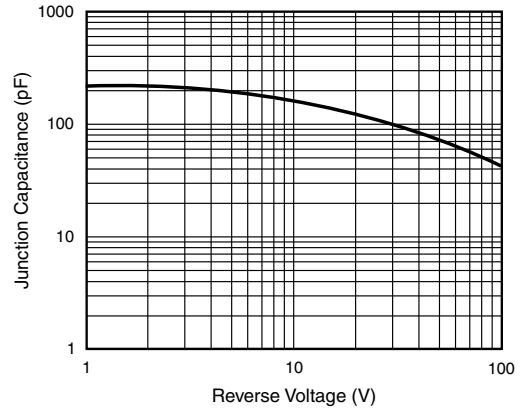


Fig. 5 - Typical Junction Capacitance Per Diode

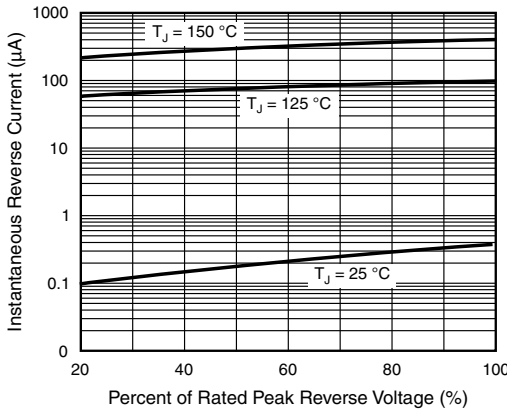


Fig. 4 - Typical Reverse Characteristics Per Diode

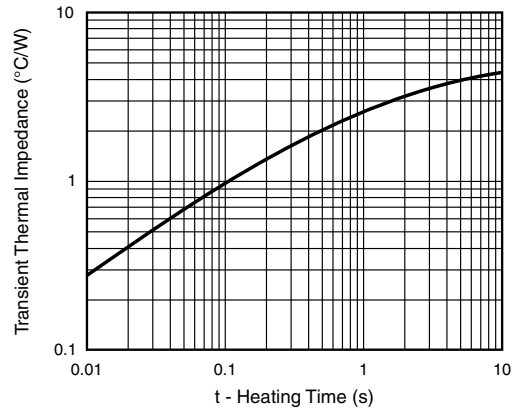
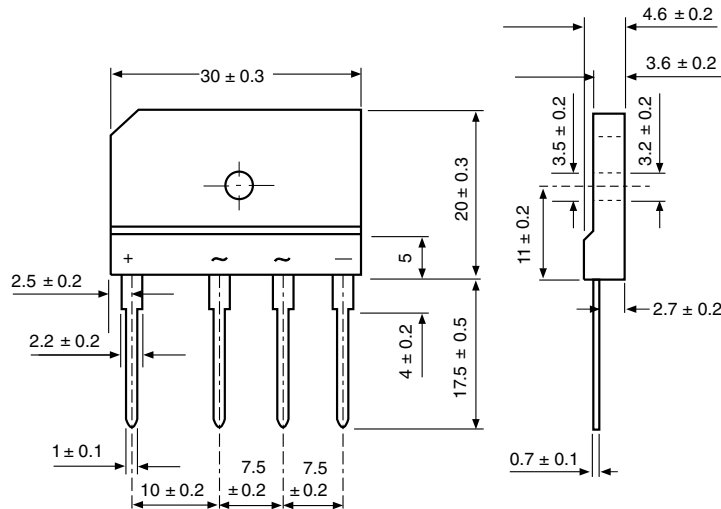


Fig. 6 - Typical Transient Thermal Impedance

**PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)

**Case Style GSIB-5S**





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