

GSIB1520N, GSIB1540N, GSIB1560N, GSIB1580N

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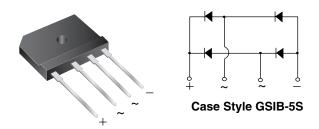
Vishay General Semiconductor

COMPLIANT

HALOGEN

FREE

Single-Phase Single In-Line Bridge Rectifiers



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 μΑ				
V_F at $I_F = 7.5 A$	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.vishav.com/doc?99912

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)

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			А	
	T _A = 25 °C	I _{F(AV)} (2)	3.5				
Peak forward surge current single sine-wave superimposed on rated load		I _{FSM}	300				Α
Rating for fusing (t < 8.3 ms)		l 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



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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	T _A = 25 °C	I_	10		10			μA
rated DC blocking voltage per diode	T _A = 125 °C	I _R	250				μΑ	

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)						
PARAMETER	SYMBOL	MBOL GSIB1520N GSIB1540N GSIB1560N GSIB1580N UNIT				UNIT
Maximum thermal resistance	$R_{\theta JA}$ (2)	22			°C/W	
iviaximum memai resistance	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	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 °C unless otherwise noted)

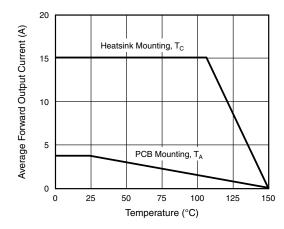


Fig. 1 - Derating Curve Output Rectified Current

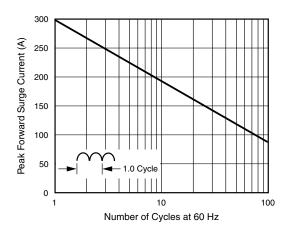


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode





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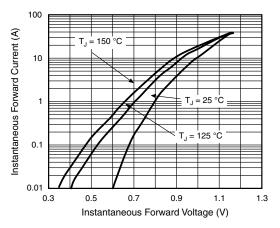


Fig. 3 - Typical Forward Characteristics Per Diode

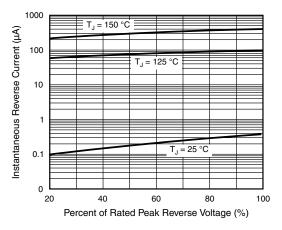


Fig. 4 - Typical Reverse Characteristics Per Diode

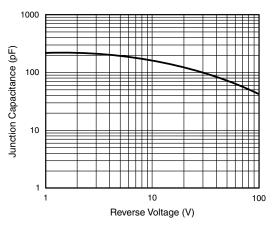


Fig. 5 - Typical Junction Capacitance Per Diode

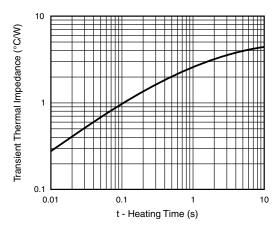


Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



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