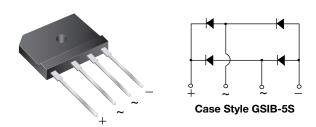


## GSIB1520, GSIB1540, GSIB1560, GSIB1580

Vishay General Semiconductor

# Single-Phase Single In-Line Bridge Rectifiers



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 μΑ				
V <sub>F</sub> at I <sub>F</sub> = 7.5 V	0.95 V				
T <sub>J</sub> max.	150 °C				
Diode variations	In-Line				

#### **FEATURES**





- 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 <a href="https://www.vishav.com/doc?99912">www.vishav.com/doc?99912</a>

#### **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 <sub>A</sub> = 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 <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 $T_C = 107  ^{\circ}C^{(1)}$	I <sub>F(AV)</sub>	15 3.5			А	
Peak forward surge current single sine-wave superimposed on rated load	I <sub>FSM</sub>	300		А		
Rating for fusing (t < 8.3 ms)	l <sup>2</sup> t	t 240			A <sup>2</sup> s	
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	J, T <sub>STG</sub> -55 to +150		°C		

#### Notes

- (1) Unit case mounted on aluminum plate heatsink
- (2) Units mounted on PCB without heatsink

<b>ELECTRICAL CHARACTERISTICS</b> (T <sub>A</sub> = 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 <sub>F</sub>	0.95			٧	
Maximum DC reverse current at T <sub>A</sub> = 25 °C		10			μA		
rated DC blocking voltage per diode	T <sub>A</sub> = 125 °C	IR	250			μΑ	

# GSIB1520, GSIB1540, GSIB1560, GSIB1580

## Vishay General Semiconductor

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)						
PARAMETER	SYMBOL	MBOL GSIB1520 GSIB1540 GSIB1560 GSIB1580				UNIT
Typical thermal resistance	$R_{\theta JA}$ (2)		°C/W			
Typical trieffial resistance	R <sub>0</sub> JC (1)	1.5				C/VV

#### **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<sub>A</sub> = 25 °C unless otherwise noted)

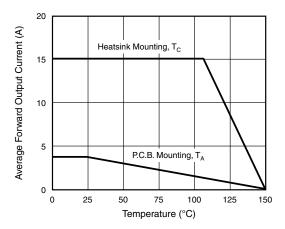


Fig. 1 - Derating Curve Output Rectified Current

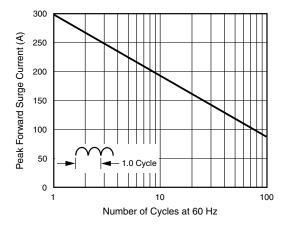


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

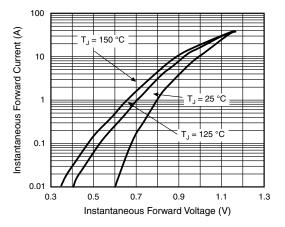


Fig. 3 - Typical Forward Characteristics Per Diode

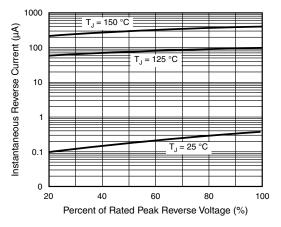
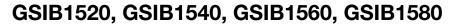


Fig. 4 - Typical Reverse Characteristics Per Diode





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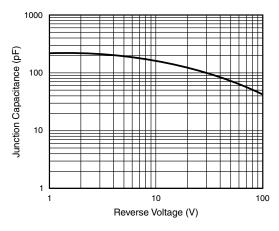


Fig. 5 - Typical Junction Capacitance Per Diode

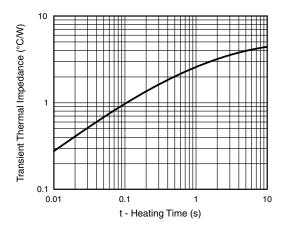
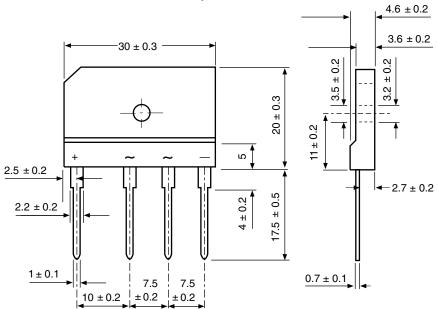


Fig. 6 - Typical Transient Thermal Impedance

### **PACKAGE OUTLINE DIMENSIONS** in millimeters

### Case Style GSIB-5S





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