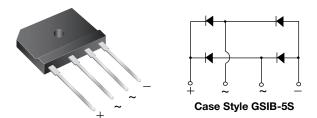


# GSIB2020, GSIB2040, GSIB2060, GSIB2080

Vishay General Semiconductor

# Single-Phase Single In-Line Bridge Rectifiers



### LINKS TO ADDITIONAL RESOURCES



PRIMARY CHARACTERISTICS					
I <sub>F(AV)</sub>	20 A				
V <sub>RRM</sub>	200 V, 400 V, 600 V, 800 V				
I <sub>FSM</sub>	240 A				
I <sub>R</sub>	10 µA				
$V_F$ at $I_F = 10 V$	1.0 V				
T <sub>J</sub> max.	150 °C				
Package	GSIB-5S				
Circuit configuration	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  $V_{\text{RMS}}$
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: for definitions of compliance please see <u>www.vishay.com/doc?99912</u>

## **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)

<b>MAXIMUM RATINGS</b> (T <sub>A</sub> = 25 °C unless otherwise noted)						
PARAMETER	SYMBOL	GSIB2020	GSIB2040	GSIB2060	GSIB2080	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 $T_{C} = 87 \text{ °C}^{(1)}$		20				А
output current at $T_A = 25 \ ^{\circ}C^{(2)}$	I <sub>F(AV)</sub>			~		
Peak forward surge current single sine-wave superimposed on rated load	I <sub>FSM</sub>	240				А
Rating for fusing (t < 8.3 ms)	l <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

<b>ELECTRICAL CHARACTERISTICS</b> ( $T_A = 25$ °C unless otherwise noted)							
PARAMETER	TEST CONDITIONS	SYMBOL	GSIB2020	GSIB2040	GSIB2060	GSIB2080	UNIT
Maximum instantaneous forward voltage drop per diode	10 A	V <sub>F</sub>	1.00		V		
Maximum DC reverse current at	T <sub>A</sub> = 25 °C	I_	10				μA
rated DC blocking voltage per diode	T <sub>A</sub> = 125 °C	125 °C		250			μΑ

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1

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<b>THERMAL CHARACTERISTICS</b> ( $T_A = 25 \text{ °C}$ unless otherwise noted)						
PARAMETER	SYMBOL	GSIB2020	GSIB2040	GSIB2060	GSIB2080	UNIT
Typical thermal resistance	R <sub>0JA</sub> <sup>(2)</sup>		°C/W			
	R <sub>0JC</sub> <sup>(1)</sup>		0/10			

Notes

 $^{(1)}\,$  Unit case mounted on aluminum plate heatsink

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

<sup>(3)</sup> 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				
GSIB2060-E3/45	7.0	45	20	Tube				

## RATINGS AND CHARACTERISTICS CURVES (T<sub>A</sub> = 25 °C unless otherwise noted)

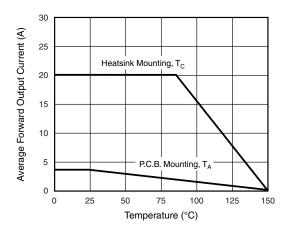


Fig. 1 - Derating Curve Output Rectified Current

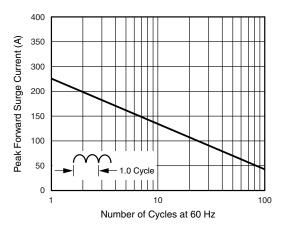


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

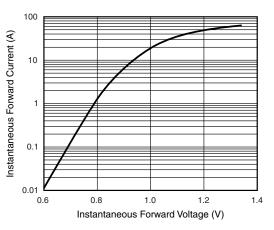


Fig. 3 - Typical Forward Characteristics Per Diode

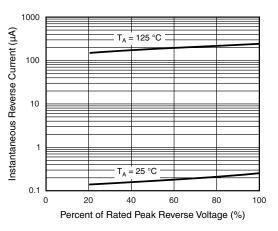


Fig. 4 - Typical Reverse Characteristics Per Diode

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2

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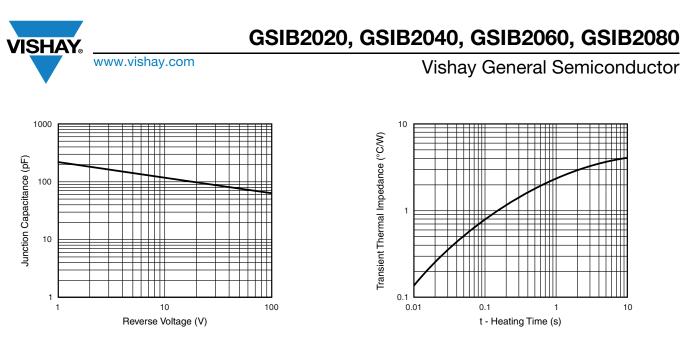
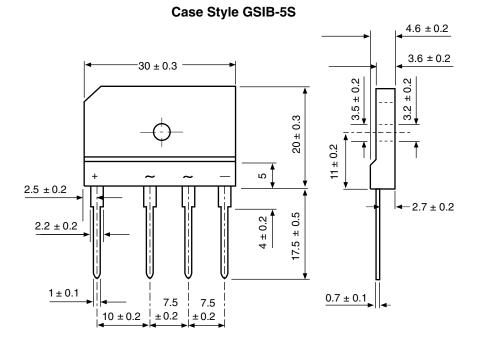


Fig. 5 - Typical Junction Capacitance Per Diode

#### Fig. 6 - Typical Transient Thermal Impedance

## **PACKAGE OUTLINE DIMENSIONS** in millimeters





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