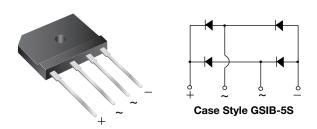
## GSIB15A20, GSIB15A40, GSIB15A60, GSIB15A80

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Vishay General Semiconductor

# Single-Phase Single In-Line Bridge Rectifiers



### **LINKS TO ADDITIONAL RESOURCES**



PRIMARY CHARACTERISTICS					
I <sub>F(AV)</sub>	15 A				
V <sub>RRM</sub>	200 V, 400 V, 600 V, 800 V				
I <sub>FSM</sub>	200 A				
I <sub>R</sub>	10 μΑ				
$V_F$ at $I_F = 7.5 \text{ V}$	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<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	GSIB15A20	GSIB15A40	GSIB15A60	GSIB15A80	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	200	400	600	800	V
Maximum RMS voltage	V <sub>RMS</sub>	140	280	420	560	٧
Maximum DC blocking voltage	$V_{DC}$	200	400	600	800	٧
Maximum average forward rectified output current at $T_C = 107  ^{\circ}C  ^{(1)}$ $T_A = 25  ^{\circ}C  ^{(2)}$	I <sub>F(AV)</sub>	15 3.5			Α	
Peak forward surge current single sine-wave superimposed on rated load	I <sub>FSM</sub>	200				А
Rating for fusing (t < 8.3 ms)	l <sup>2</sup> t	166			A <sup>2</sup> s	
Operating junction and storage temperature range	T <sub>J</sub> , 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	GSIB15A20	GSIB15A40	GSIB15A60	GSIB15A80	UNIT
Maximum instantaneous forward voltage drop per diode	7.5 A	V <sub>F</sub>	1.00			V	
Maximum DC reverse current at T <sub>A</sub> = 25 °C		10					
rated DC blocking voltage per diode	T <sub>A</sub> = 125 °C	25 °C		250			μA

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THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)						
PARAMETER	SYMBOL GSIB15A20 GSIB15A40 GSIB15A60 GSIB15A80 UNIT					UNIT
Typical thermal resistance	R <sub>0JA</sub> (2)	22				°C/W
Typical trieffilal resistance	R <sub>0</sub> JC (1)	1.5			G/ 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)	UNIT WEIGHT (g) PREFERRED PACKAGE CODE BASE QUANTITY DELIVERY MODE					
GSIB15A60-E3/45	7.0	45	20	Tube			

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

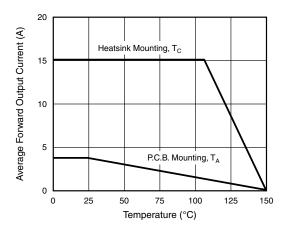


Fig. 1 - Derating Curve Output Rectified Current

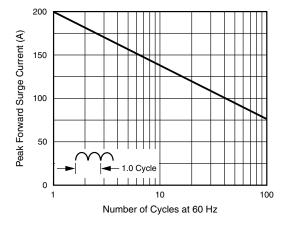


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

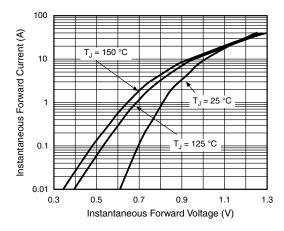


Fig. 3 - Typical Forward Characteristics Per Diode

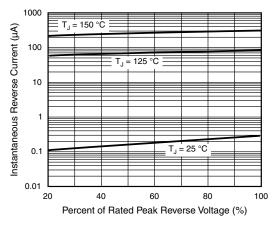
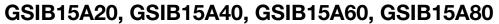


Fig. 4 - Typical Reverse Characteristics Per Diode



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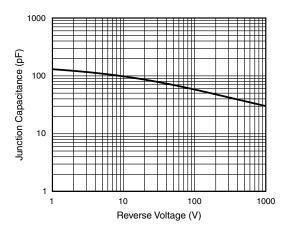


Fig. 5 - Typical Junction Capacitance Per Diode

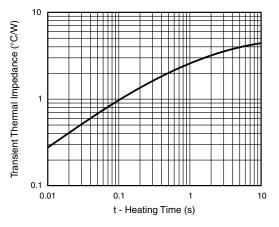
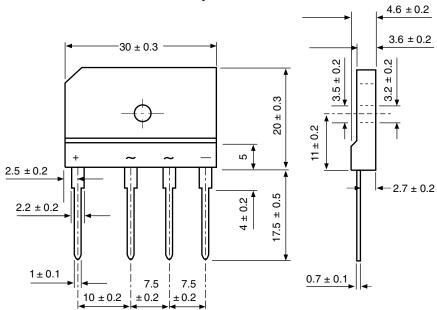


Fig. 6 - Typical Transient Thermal Impedance

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

### Case Style GSIB-5S





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