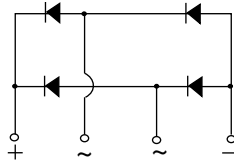
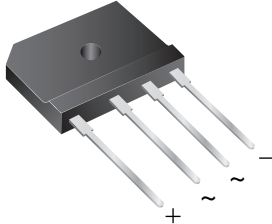




**THE DATASHEET OF
GSIB1580-E3/45**



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_{RMS}
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

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)

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 μ A
V_F at $I_F = 7.5$ V	0.95 V
T_J max.	150 °C
Diode variations	In-Line

MAXIMUM RATINGS ($T_A = 25$ °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_{RMS}	140	280	420	560	V	
Maximum DC blocking voltage	V_{DC}	200	400	600	800	V	
Maximum average forward rectified output current at	$I_{F(AV)}$	$T_C = 107$ °C ⁽¹⁾				15	A
		$T_A = 25$ °C ⁽²⁾				3.5	
Peak forward surge current single sine-wave superimposed on rated load	I_{FSM}	300				A	
Rating for fusing ($t < 8.3$ ms)	I^2t	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

ELECTRICAL CHARACTERISTICS ($T_A = 25$ °C unless otherwise noted)							
PARAMETER	TEST CONDITIONS	SYMBOL	GSIB1520	GSIB1540	GSIB1560	GSIB1580	UNIT
Maximum instantaneous forward voltage drop per diode	7.5 A	V_F	0.95				V
Maximum DC reverse current at rated DC blocking voltage per diode	$T_A = 25$ °C	I_R	10				μ A
	$T_A = 125$ °C		250				



THERMAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)						
PARAMETER	SYMBOL	GSIB1520	GSIB1540	GSIB1560	GSIB1580	UNIT
Typical thermal resistance	$R_{\theta JA}$ (2)	22				$^\circ\text{C/W}$
	$R_{\theta JC}$ (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	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
GSIB1560-E3/45	7.0	45	20	Tube

RATINGS AND CHARACTERISTICS CURVES ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

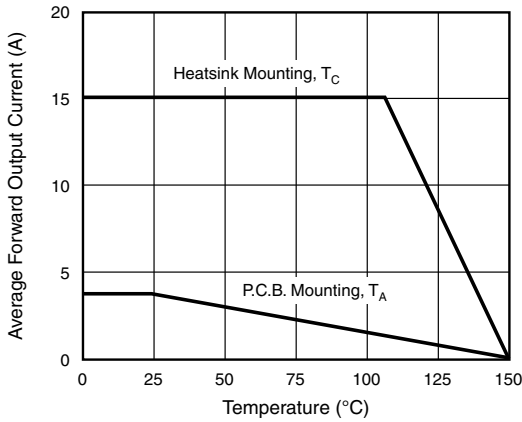


Fig. 1 - Derating Curve Output Rectified Current

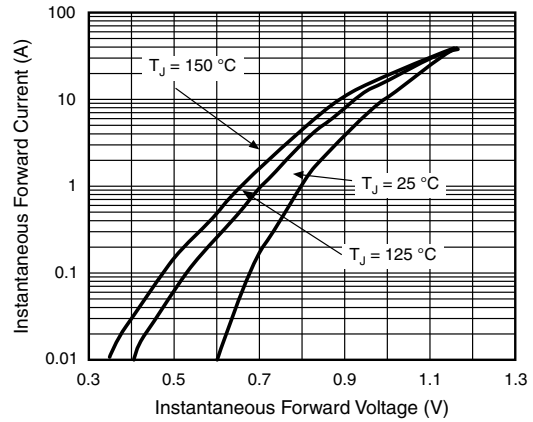


Fig. 3 - Typical Forward Characteristics Per Diode

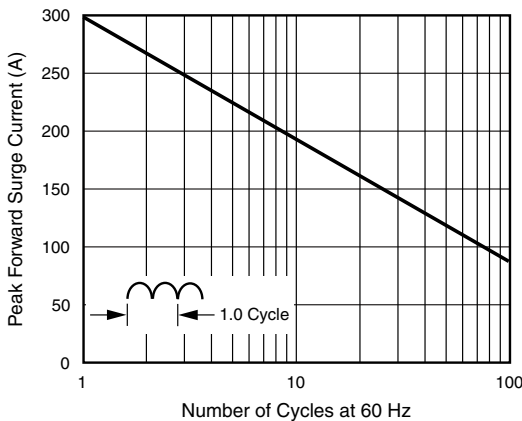


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

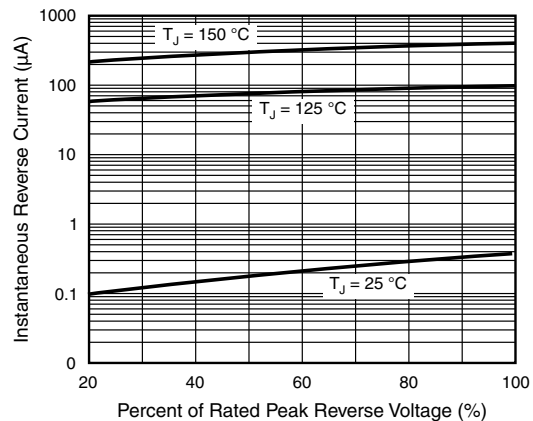


Fig. 4 - Typical Reverse Characteristics Per Diode

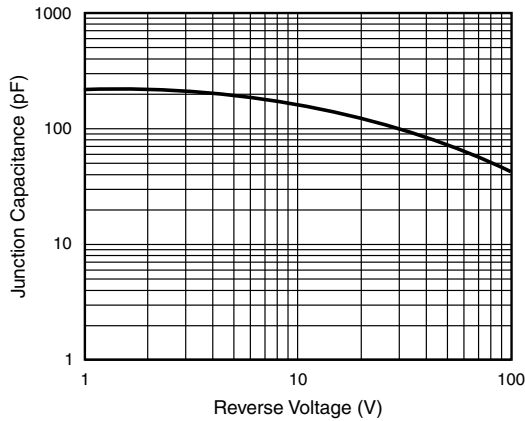


Fig. 5 - Typical Junction Capacitance Per Diode

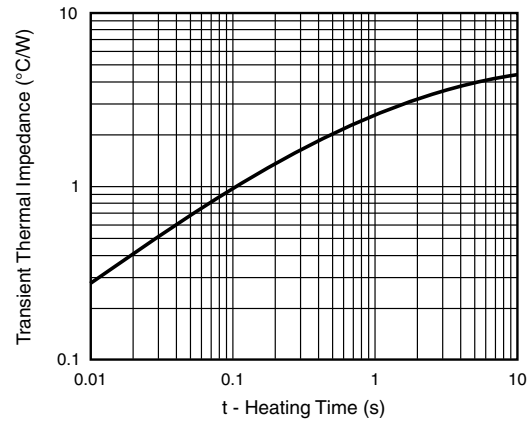
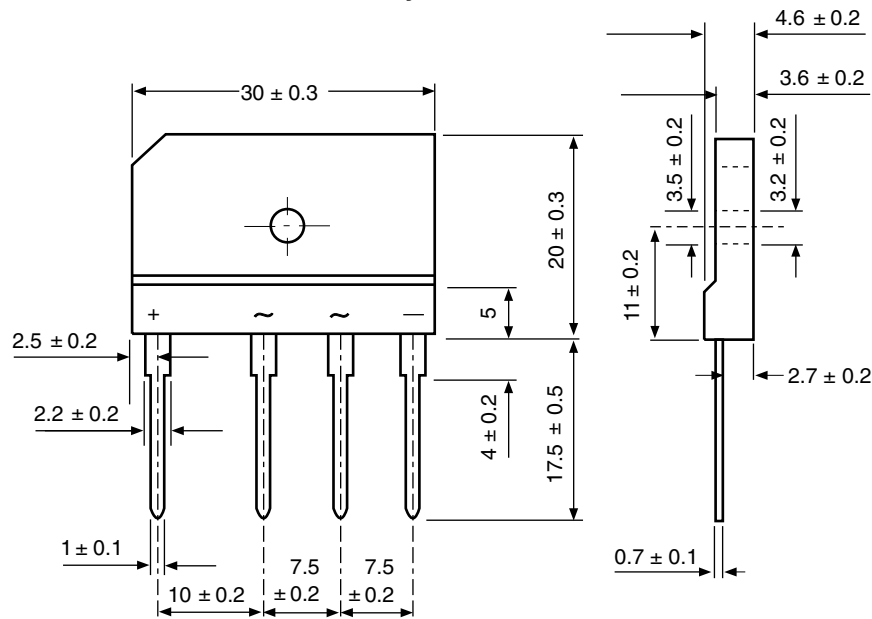


Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in millimeters

Case Style GSIB-5S





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