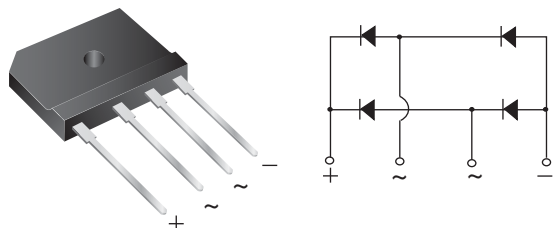




Single-Phase Single In-Line Bridge Rectifiers



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
- Compliant to RoHS Directive 2002/95/EC and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition



RoHS
COMPLIANT
HALOGEN
FREE

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)

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	15 A
V_{RRM}	200 V to 800 V
I_{FSM}	300 A
I_R	10 μ A
V_F	0.95 V
T_J max.	150 °C

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			A
	T _A = 25 °C	I _{F(AV)} ⁽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 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

**ELECTRICAL CHARACTERISTICS** ($T_A = 25\text{ }^{\circ}\text{C}$ 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 rated DC blocking voltage per diode	T _A = 25 °C	I _R	10				μA
	T _A = 125 °C		250				

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

PARAMETER	SYMBOL	GSIB1520N	GSIB1540N	GSIB1560N	GSIB1580N	UNIT
Maximum thermal resistance	R _{θJA} ⁽²⁾	22				°C/W
	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	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
GSIB1560N-M3/45	7.0	45	20	Tube

RATINGS AND CHARACTERISTICS CURVES

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

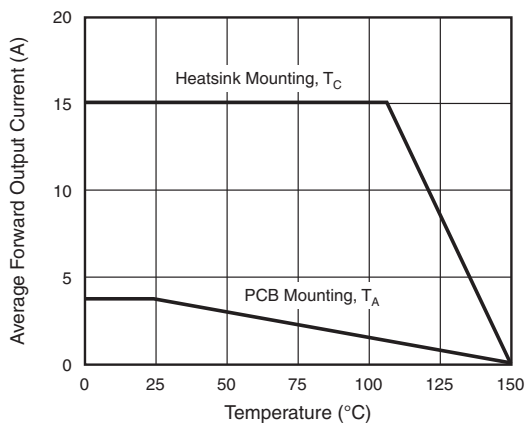


Fig. 1 - Derating Curve Output Rectified Current

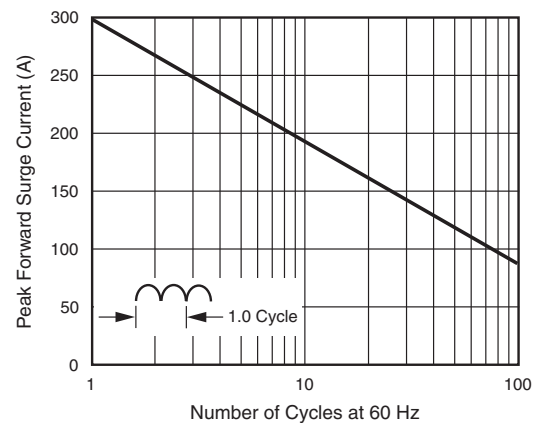


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

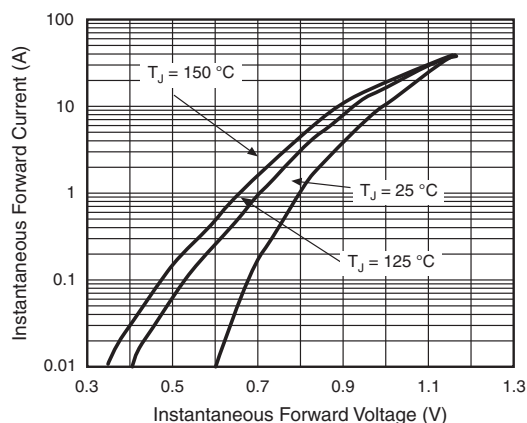


Fig. 3 - Typical Forward Characteristics Per Diode

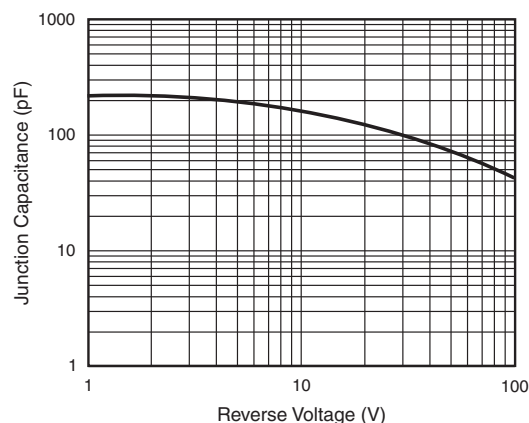


Fig. 5 - Typical Junction Capacitance Per Diode

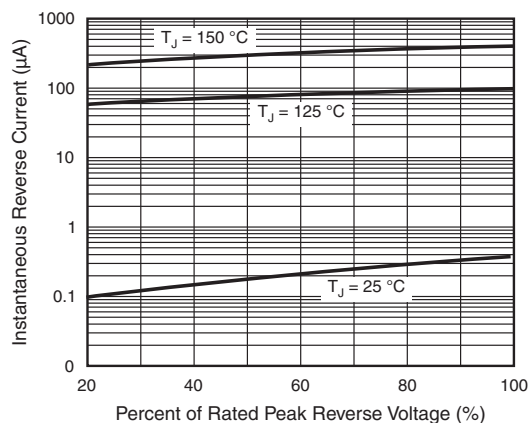


Fig. 4 - Typical Reverse Characteristics Per Diode

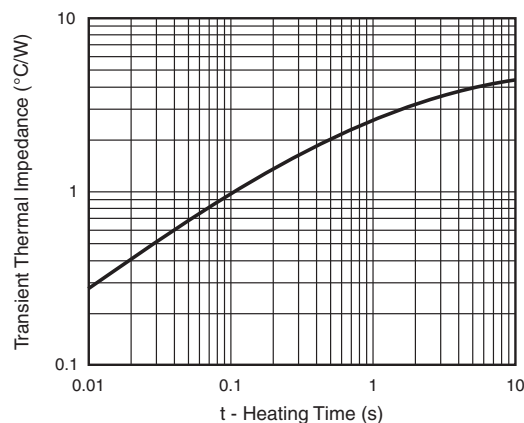
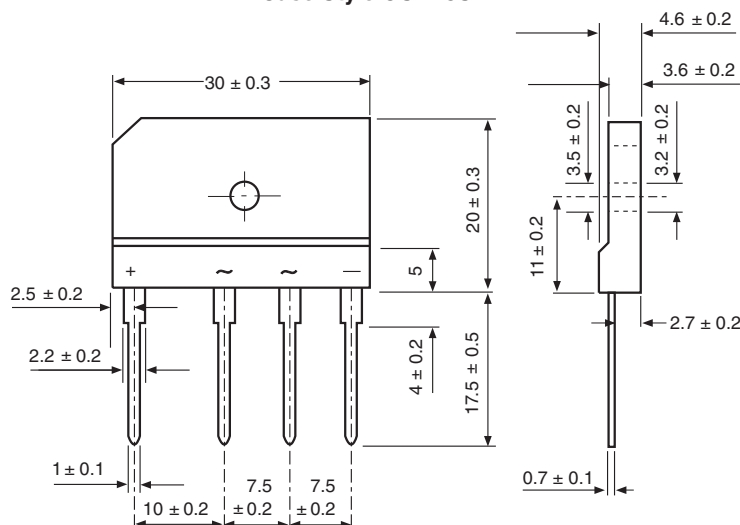


Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)**Case Style GSIB-5S**



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