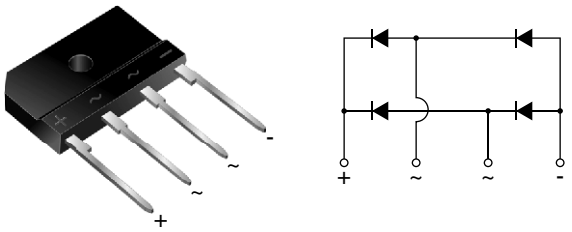
VSIB420 thru VSIB480

Vishay General Semiconductor

Single-Phase Single In-Line Bridge Rectifier



Case Style GSIB-3S

FEATURES

- UL recognition file number E312394 (QQQX2)
- Ideal for printed circuit boards
- High surge current capability
- High case dielectric strength of 1500 V_{RMS}
- Solder dip 260 °C, 40 s
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC

RoHS COMPLIANT

TYPICAL APPLICATIONS

General purpose use in ac-to-dc bridge full wave rectification for monitor, TV, printer, switching mode power supply, adapter, audio equipment, and home appliances applications.

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	4.0 A
V_{RRM}	200 V to 800 V
I_{FSM}	130 A
I_R	10 µA
V_F	0.95 V
T_J max.	150 °C

MECHANICAL DATA

Case: GSIB-3S

Epoxy meets UL 94 V-0 flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 suffix for consumer grade, meets JESD 201 class 1A whisker test

Mounting Torque: 10 cm-kg (8.8 inches-lbs) max.

Recommended Torque: 5.7 cm-kg (5 inches-lbs)

MAXIMUM RATINGS (T_A = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	VSIB420	VSIB440	VSIB460	VSIB480	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 = 100 °C / T_A = 25 °C	$I_{F(AV)}$	4.0 (1) / 2.3 (2)				A
Peak forward surge current single sine-wave superimposed on rated load	I_{FSM}	130				A
Rating for fusing (t < 8.3 ms)	I^2t	70				A^2s
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 P.C.B. with 0.5" x 0.5" (12 mm x 12 mm) copper pads and 0.375" (9.5 mm) lead length

VSIB420 thru VSIB480

Vishay General Semiconductor

ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)								
PARAMETER	TEST CONDITIONS		SYMBOL	VSIB420	VSIB440	VSIB460	VSIB480	UNIT
Maximum instantaneous forward drop per diode (1)	I_F = 2.0 A	T_A = 25 °C	V_F	0.95				V
Maximum reverse current per diode (2)	Rated V_R	T_A = 25 °C T_A = 125 °C	I_R	10 250				µA

Notes

(1) Pulse test: 300 µs pulse width, 1 % duty cycle

(2) Pulse test: Pulse width ≤ 40 ms

THERMAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)						
PARAMETER	SYMBOL	VSIB420	VSIB440	VSIB460	VSIB480	UNIT
Maximum thermal resistance	$R_{\theta JA}$ $R_{\theta JC}$	26 (2) 5 (1)				°C/W

Notes

(1) Unit case mounted on aluminum plate heatsink

(2) Units mounted on P.C.B. with 0.5" x 0.5" (12 mm x 12 mm) copper pads and 0.375" (9.5 mm) lead length

(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
VSIB460-E3/45	4.0	45	20	Tube

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

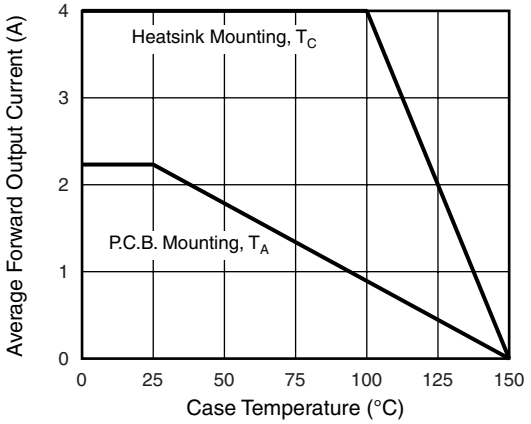


Figure 1. Derating Curve Output Rectified Current

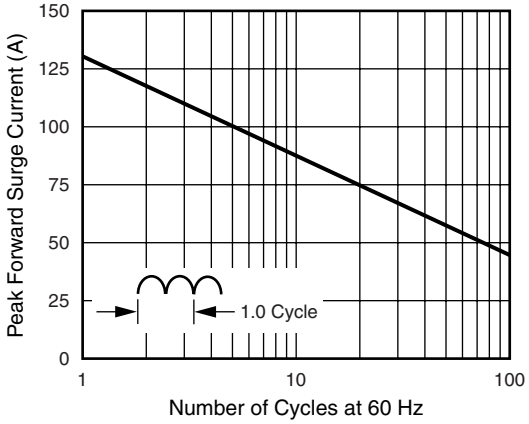


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Diode

For technical questions within your region, please contact one of the following:
PDD-Americas@vishay.com, PDD-Asia@vishay.com, PDD-Europe@vishay.com

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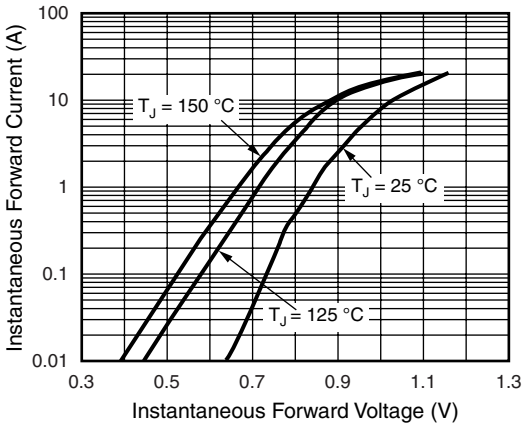


Figure 3. Typical Instantaneous Forward Characteristics Per Diode

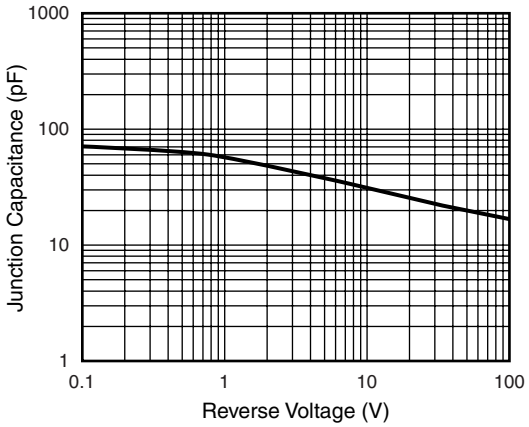


Figure 5. Typical Junction Capacitance Per Diode

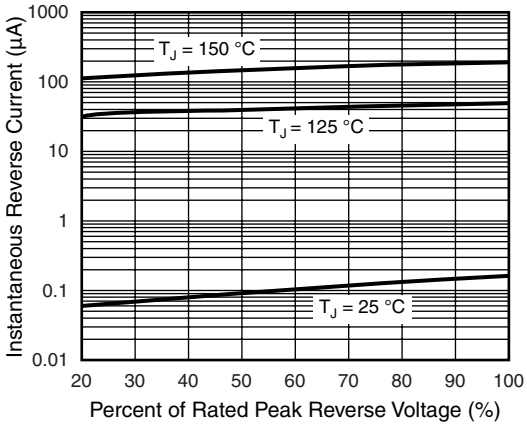


Figure 4. Typical Reverse Characteristics Per Diode

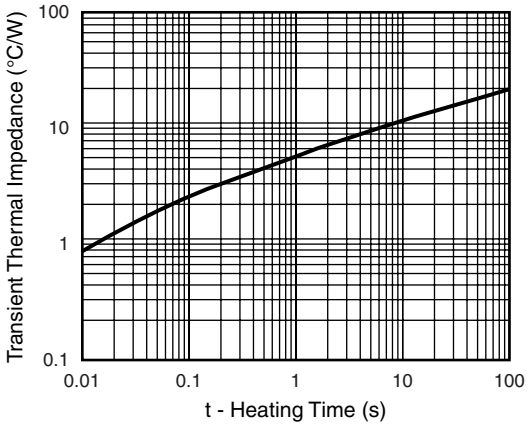
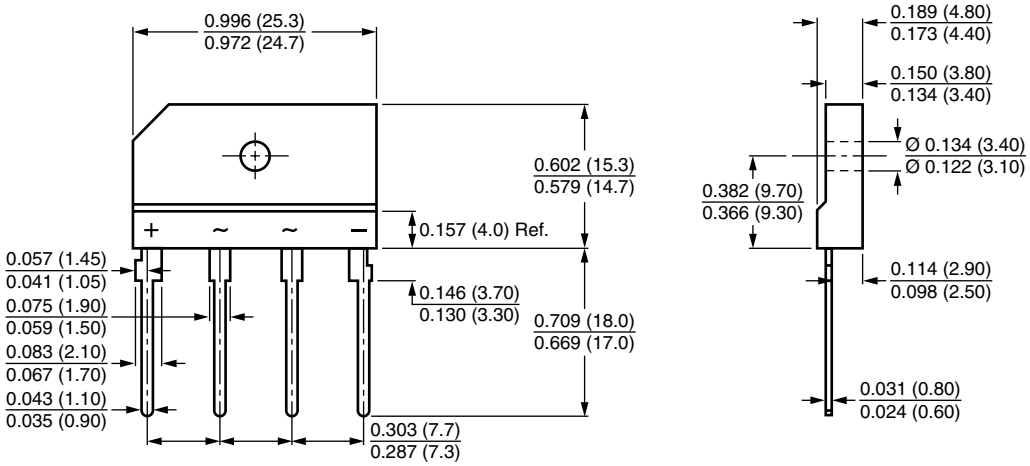


Figure 6. Typical Transient Thermal Impedance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

Case Style GSIB-3S



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