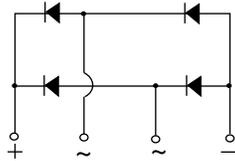
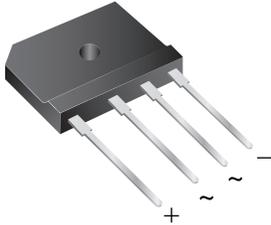


Low V_F Single-Phase Single In-Line Bridge Rectifiers


Case Style GSIB-5S

RoHS
 COMPLIANT
 HALOGEN
FREE

FEATURES

- UL recognition file number E312394
- Thin single in-line package
- Oxide planar chip junction
- Low forward voltage drop
- 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

TYPICAL APPLICATIONS

General purpose use in AC/DC bridge full wave rectification for switching power supply, home appliances, and white-goods applications specially for telecom power supply, high efficiency desktop PC, and server SMPS.

MECHANICAL DATA

Case: GSIB-5S

Epoxy 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}	600 V
I_{FSM}	300 A
I_R	10 μ A
V_F at $I_F = 7.5$ A, $T_A = 125$ °C	0.71 V
T_J max.	150 °C
Package	GSIB-5S
Diode variations	In-line

MAXIMUM RATINGS ($T_A = 25$ °C unless otherwise noted)			
PARAMETER	SYMBOL	LVE1560	UNIT
Marking code		LVE1560	
Maximum repetitive peak reverse voltage	V_{RRM}	600	V
Maximum RMS voltage	V_{RMS}	420	V
Maximum DC blocking voltage	V_{DC}	600	V
Maximum average forward rectified output current at	$T_C = 120$ °C	$I_O^{(1)}$	15
	$T_A = 25$ °C	$I_O^{(2)}$	3.5
Non-repetitive peak forward surge current 8.3 ms single sine-wave, $T_J = 25$ °C	I_{FSM}	300	A
Rating for fusing ($t < 8.3$ ms), $T_J = 25$ °C	I^2t	373	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	TYP.	MAX.	UNIT
Instantaneous forward voltage	I _F = 7.5 A	T _A = 25 °C	0.85	0.90	V
		T _A = 125 °C	0.71	-	
Reverse current per diode	V _R = 600 V	T _A = 25 °C	0.03	10	μA
		T _A = 125 °C	12.5	-	
Typical reverse recovery time	I _F = 0.5 A, I _R = 1.0 A, I _{rr} = 0.25 A	t _{rr}	278	-	ns
Typical junction capacitance	4.0 V, 1 MHz	C _J	175	-	pF

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	LVE1560	UNIT
Maximum thermal resistance	R _{θJA} (2)	24	°C/W
	R _{θJC} (1)	1	

Notes

(1) With heatsink

(2) Without heatsink, free air

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
LVE1560-M3/P	6.7	P	20	Tube

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

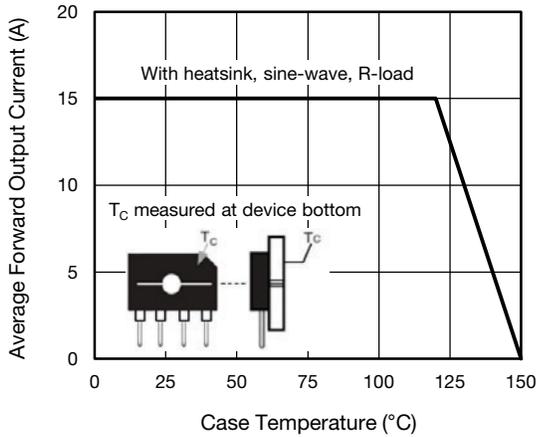


Fig. 1 - Derating Curve Output Rectified Current

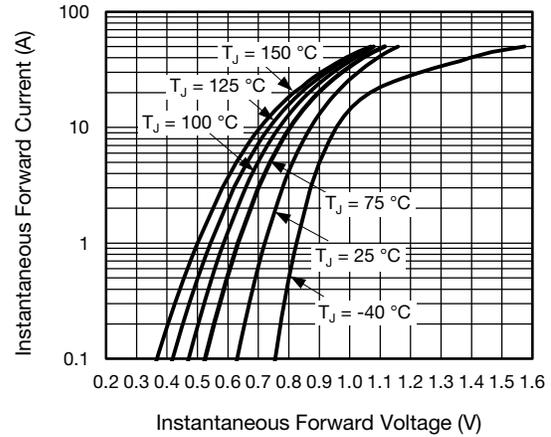


Fig. 4 - Typical Forward Characteristics Per Diode

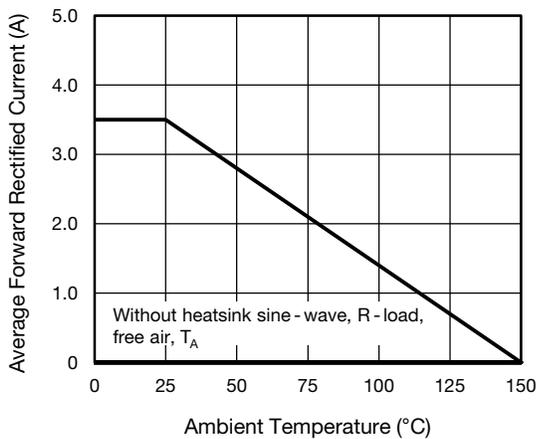


Fig. 2 - Forward Current Derating Curve

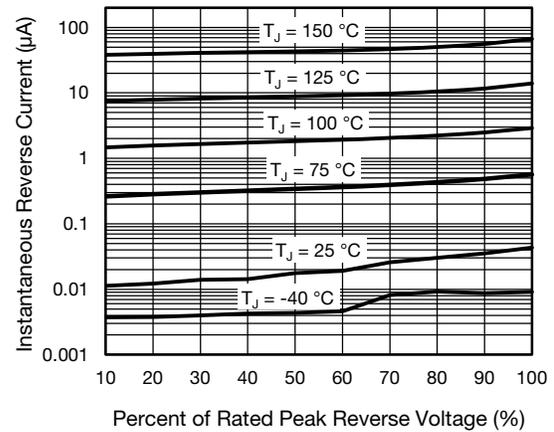


Fig. 5 - Typical Reverse Characteristics Per Diode

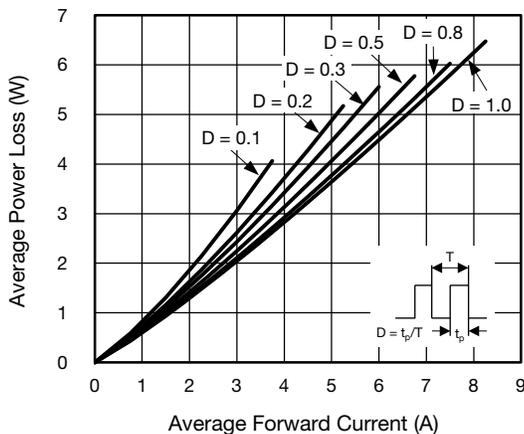


Fig. 3 - Forward Power Dissipation

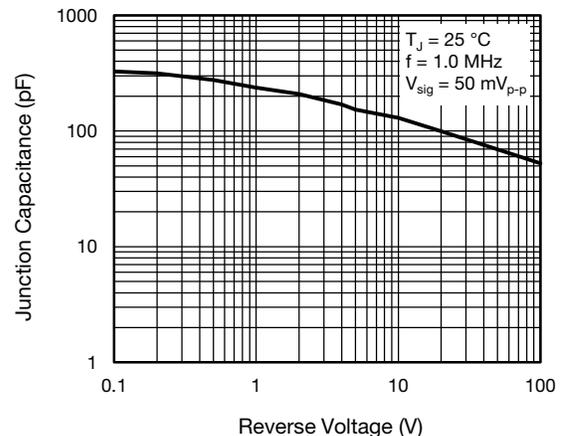


Fig. 6 - Typical Junction Capacitance Per Diode

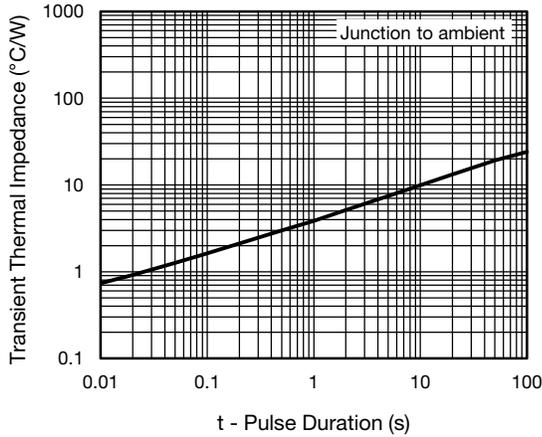
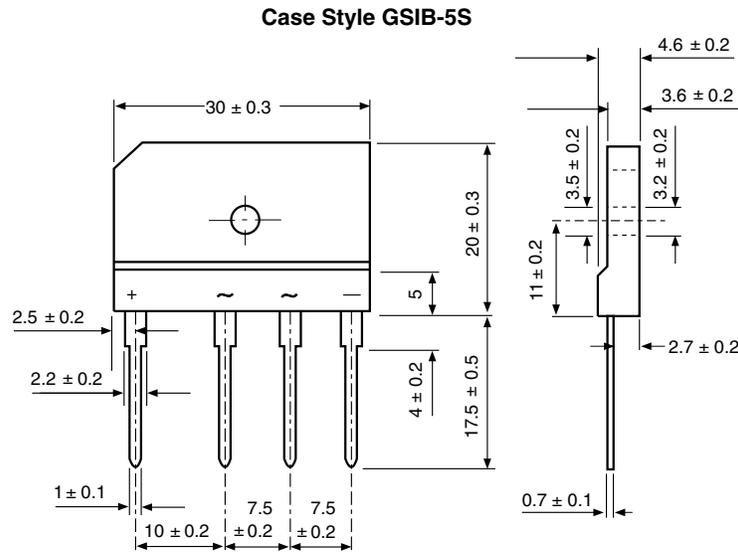


Fig. 7 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in millimeters





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