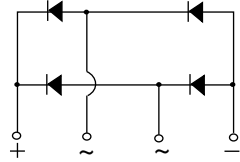
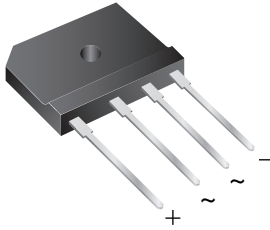


# Low $V_F$ Single-Phase Single In-Line Bridge Rectifiers



Case Style GSIB-5S

## LINKS TO ADDITIONAL RESOURCES



3D Models

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	25 A
$V_{RRM}$	600 V
$I_{FSM}$	400 A
$I_R$	10 $\mu$ A
$V_F$ at $I_F = 12.5$ A, $T_A = 125$ °C	0.74 V
$T_J$ max.	150 °C
Package	GSIB-5S
Circuit configuration	In-line

## 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](http://www.vishay.com/doc?99912)


**RoHS**  
 COMPLIANT  
 HALOGEN  
**FREE**

## 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)

MAXIMUM RATINGS ( $T_A = 25$ °C unless otherwise noted)			
PARAMETER	SYMBOL	LVE2560	UNIT
Marking code		LVE2560	
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	$T_C = 118.7$ °C	$I_O^{(1)}$	25
	$T_A = 25$ °C	$I_O^{(2)}$	3.5
Non-repetitive peak forward surge current 8.3 ms single sine-wave, $T_J = 25$ °C	$I_{FSM}$	400	A
Rating for fusing ( $t < 8.3$ ms), $T_J = 25$ °C	$I^2t$	664	A <sup>2</sup> 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 <sub>A</sub> = 25 °C unless otherwise noted)						
PARAMETER	TEST CONDITIONS		SYMBOL	TYP.	MAX.	UNIT
Instantaneous forward voltage	I <sub>F</sub> = 12.5 A	T <sub>A</sub> = 25 °C	V <sub>F</sub> <sup>(1)</sup>	0.87	0.92	V
		T <sub>A</sub> = 125 °C		0.74	-	
Reverse current per diode	V <sub>R</sub> = 600 V	T <sub>A</sub> = 25 °C	I <sub>R</sub> <sup>(2)</sup>	0.03	10	μA
		T <sub>A</sub> = 125 °C		15.0	-	
Typical reverse recovery time	I <sub>F</sub> = 0.5 A, I <sub>R</sub> = 1.0 A, I <sub>rr</sub> = 0.25 A		t <sub>rr</sub>	309	-	ns
Typical junction capacitance	4.0 V, 1 MHz		C <sub>J</sub>	240	-	pF

Notes

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

(2) Pulse test: pulse width ≤ 40 ms

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)			
PARAMETER	SYMBOL	LVE2560	UNIT
Maximum thermal resistance	R <sub>θJA</sub> <sup>(2)</sup>	24	°C/W
	R <sub>θJC</sub> <sup>(1)</sup>	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
LVE2560-M3/P	6.9	P	20	Tube

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

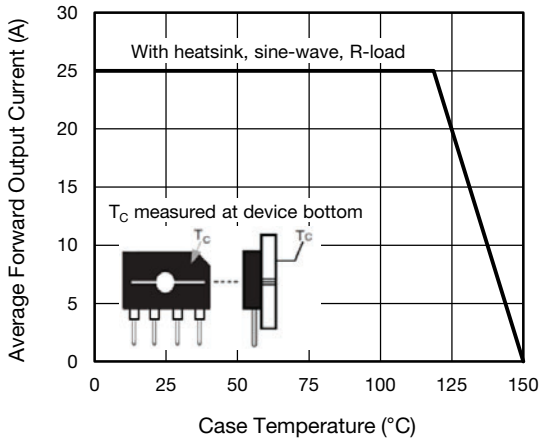


Fig. 1 - Derating Curve Output Rectified Current

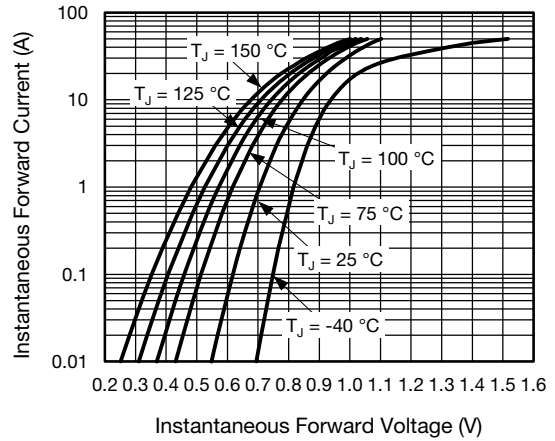


Fig. 4 - Typical Forward Characteristics Per Diode

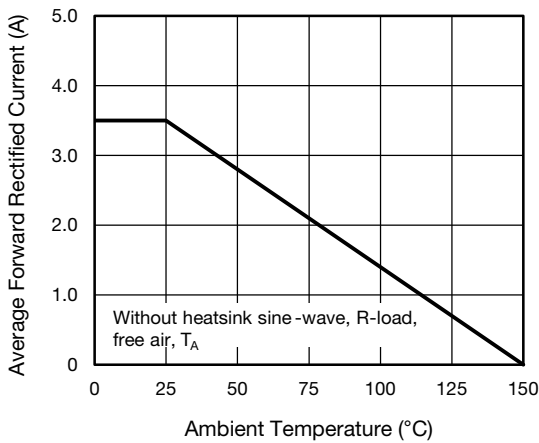


Fig. 2 - Forward Current Derating Curve

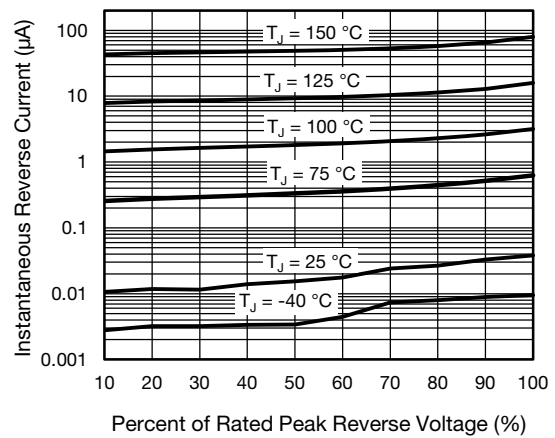


Fig. 5 - Typical Reverse Characteristics Per Diode

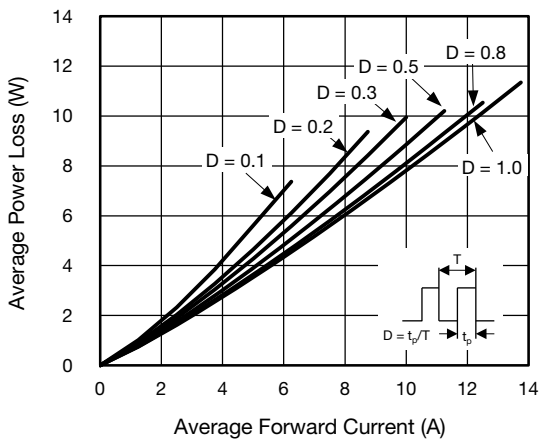


Fig. 3 - Forward Power Dissipation

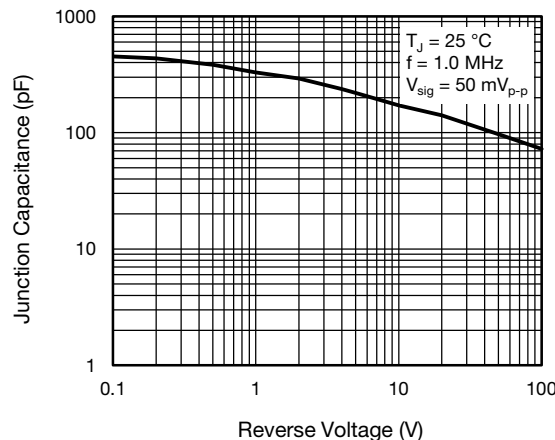


Fig. 6 - Typical Junction Capacitance Per Diode

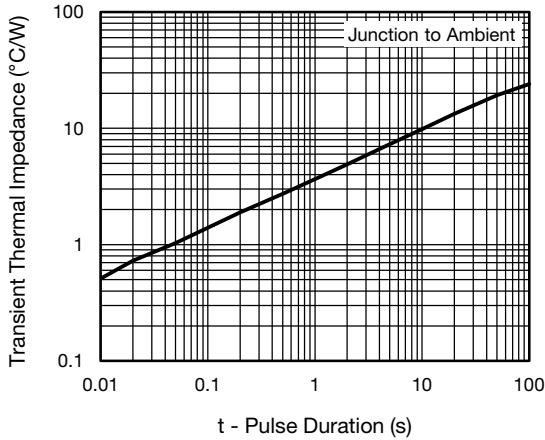
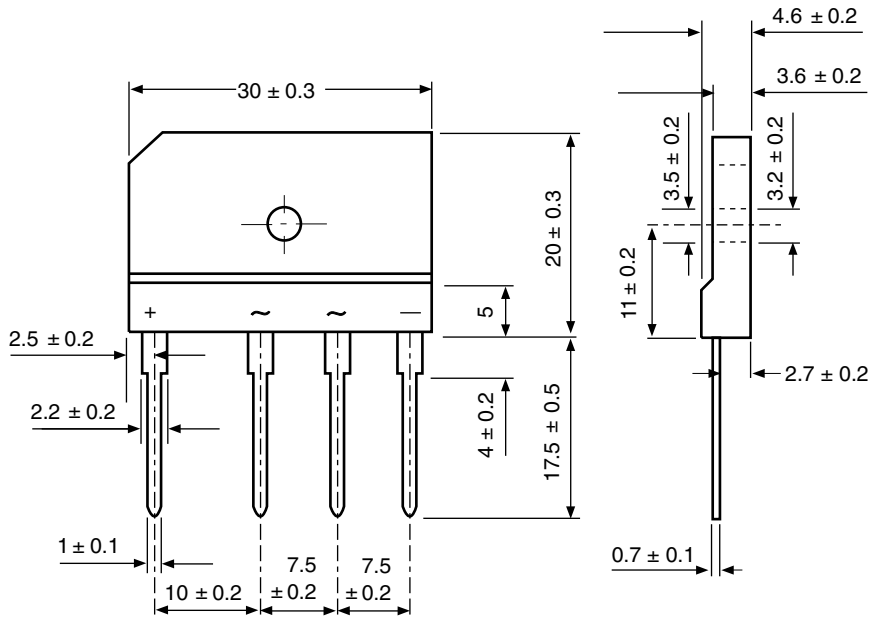


Fig. 7 - Typical Transient Thermal Impedance

**PACKAGE OUTLINE DIMENSIONS** in millimeters

**Case Style GSIB-5S**





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