ROHS

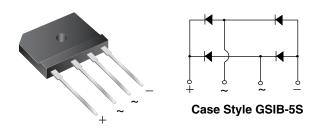
HALOGEN

FREE



Vishay General Semiconductor

Low V_F Single-Phase Single In-Line Bridge Rectifiers



LINKS TO ADDITIONAL RESOURCES



PRIMARY CHARACTERISTICS				
I _{F(AV)}	25 A			
V _{RRM}	600 V			
I _{FSM}	360 A			
I _R	10 μA			
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
- Low noise
- High case dielectric strength of 2500 V_{RMS}, 1 minute
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: for definitions of compliance please see <u>www.vishay.com/doc?99912</u>

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	LVE2560E	UNIT	
Marking code			LVE2560E		
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	А	
	T _A = 25 °C	I _O ⁽²⁾	4.0	^	
Non-repetitive peak forward surge current 8.3 ms single sine-wave, $T_J = 25 ^{\circ}\text{C}$		I _{FSM}	360	А	
Rating for fusing (t < 8.3 ms), $T_J = 25$ °C		I ² t	537	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



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ELECTRICAL CHARACTERISTICS (T _J = 25 °C unless otherwise noted)							
PARAMETER	TEST CONDITIONS		SYMBOL	TYP.	MAX.	UNIT	
Instantaneous forward voltage	I _F = 12.5 A	T _J = 25 °C	V _F ⁽¹⁾	0.87	0.92	V	
		T _J = 125 °C		0.74	-		
Reverse current per diode	V _R = 600 V	T _J = 25 °C	I _R ⁽²⁾	0.03	10	μА	
		T _J = 125 °C		15.0	-		
Typical reverse recovery time	I _F = 0.5 A, I _R = 1.0 A, I _{rr} = 0.25 A		t _{rr}	309	-	ns	
Typical junction capacitance	4.0 V, 1 MHz		CJ	240	-	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	LVE2560E	UNIT	
Maximum thermal resistance	R _{0JA} (2)	24	°C/W	
	R ₀ JC (1)	1	C/VV	

Notes

(1) With heatsink

(2) Without heatsink, free air

ORDERING INFORMATION (Example)						
PREFERRED P/N	UNIT WEIGHT (g)	BASE QUANTITY	DELIVERY MODE			
LVE2560E-M3/P	6.9	Р	20	Tube		

RATINGS AND CHARACTERISTICS CURVES ($T_A = 25$ °C unless otherwise noted)

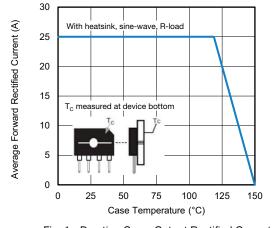


Fig. 1 - Derating Curve Output Rectified Current

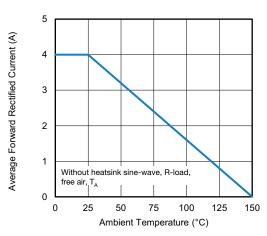


Fig. 2 - Forward Current Derating Curve

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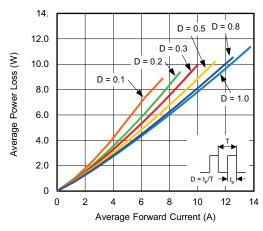


Fig. 3 - Forward Power Dissipation

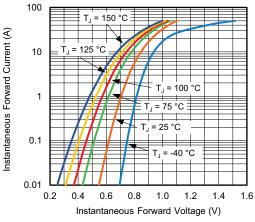


Fig. 4 - Typical Forward Characteristics Per Diode

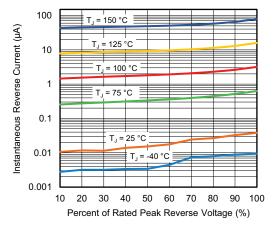


Fig. 5 - Typical Reverse Characteristics Per Diode

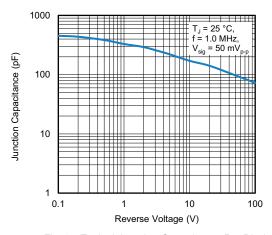


Fig. 6 - Typical Junction Capacitance Per Diode

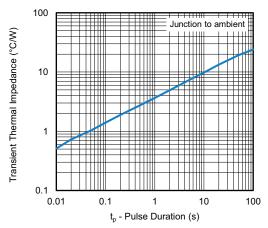
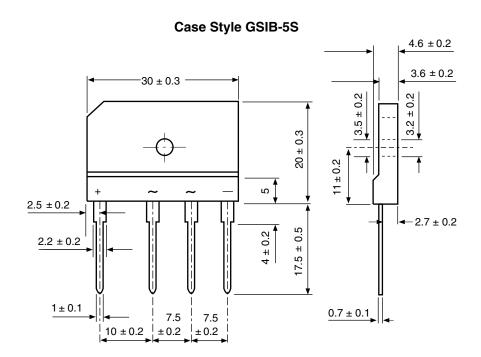


Fig. 7 - Typical Transient Thermal Impedance



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PACKAGE OUTLINE DIMENSIONS in millimeters





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