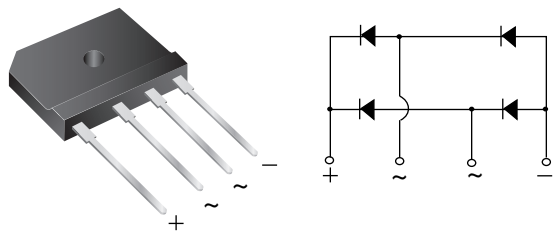


Low V_F Single-Phase Single In-Line Bridge Rectifiers



Case Style GSIB-5S

FEATURES

- UL recognition file number E54214, Vol. 1
- 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
- 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 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	
$I_{F(AV)}$	25 A
V_{RRM}	600 V
I_{FSM}	550 A
I_R	10 μ A
V_F at $I_F = 12.5$ A, $T_A = 125$ °C	0.76 V
T_J max.	150 °C

MAXIMUM RATINGS ($T_A = 25$ °C unless otherwise noted)			
PARAMETER	SYMBOL	LVB2560	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	600	V
Maximum average forward rectified output current at	$T_C = 105$ °C $I_O^{(1)}$	25	A
	$T_A = 25$ °C $I_O^{(2)}$	3.6	
Non-repetitive peak forward surge current 8.3 ms single sine-wave, $T_J = 25$ °C	I_{FSM}	550	A
Rating for fusing ($t < 8.3$ ms) $T_J = 25$ °C	I^2t	1255	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	TYP.	MAX.	UNIT
Instantaneous forward voltage	$I_F = 12.5\text{ A}$	$V_F^{(1)}$	0.89	0.92	V
			0.76	-	
Reverse current per diode	$V_R = 600\text{ V}$	$I_R^{(2)}$	0.2	10	μA
			140	-	
Typical reverse recovery time	$I_F = 0.5\text{ A}$, $I_R = 1.0\text{ A}$, $I_{rr} = 0.25\text{ A}$	t_{rr}	1.8	-	μs
Typical junction capacitance	4.0 V, 1 MHz	C_J	330	-	pF

Notes(1) Pulse test: 300 μs pulse width, 1 % duty cycle(2) Pulse test: pulse width $\leq 40\text{ ms}$ **THERMAL CHARACTERISTICS** ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	LVB2560	UNIT
Maximum thermal resistance	$R_{\theta JA}^{(2)}$	25	$^{\circ}\text{C/W}$
	$R_{\theta JC}^{(1)}$	1.0	

Notes

(1) With heatsink

(2) Without heatsink, free air

EMC SURGE IMMUNITY TEST STANDARD ($T_A = 25\text{ }^{\circ}\text{C}$, unless otherwise noted)

STANDARD	TEST TYPE	TEST CONDITIONS	SYMBOL	CLASS	VALUE
IEC 61000-4-5	Power supply coupling mode, line to line	1.2/50 μs waveform, $R = 2\text{ }\Omega$, $T_A = 25\text{ }^{\circ}\text{C}$ (1)	V_{PEAK}	-	6 kV maximum

Note(1) Immunity to IEC 61000-4-5 peak pulse voltage test, 1.2/50 μs , 2 Ω , 5 times each of positive and negative polarity test**ORDERING INFORMATION** (Example)

PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
LVB2560-M3/45	7.1	45	20	Tube

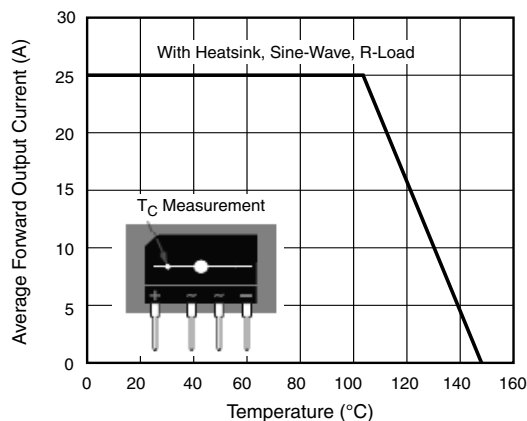
RATINGS AND CHARACTERISTICS CURVES($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

Fig. 1 - Derating Curve Output Rectified Current

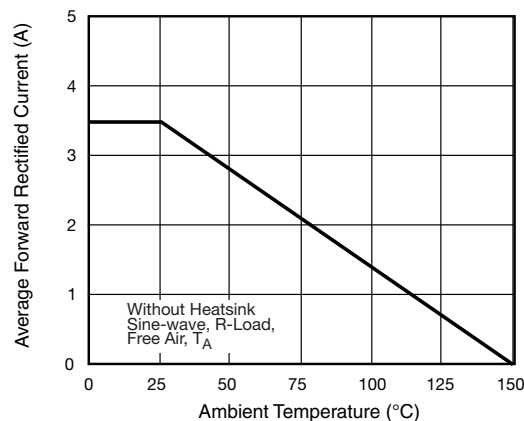


Fig. 2 - Forward Current Derating Curve

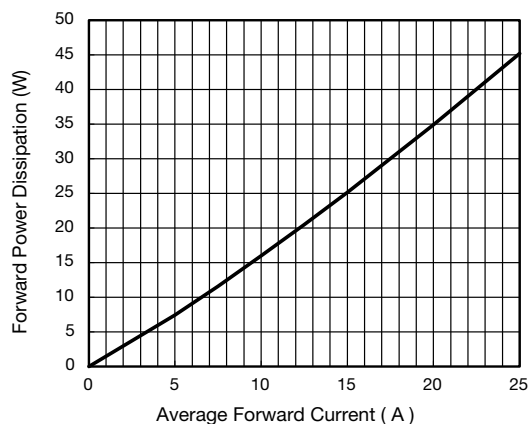


Fig. 3 - Forward Power Dissipation

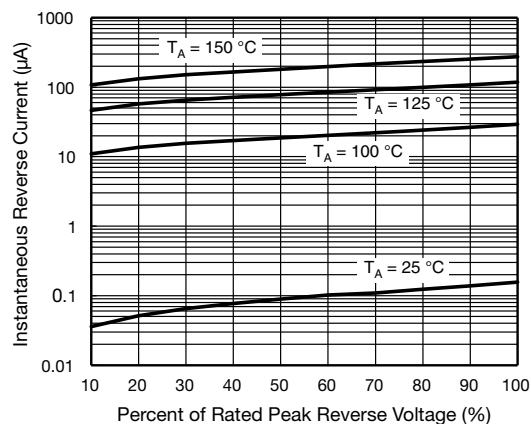


Fig. 5 - Typical Reverse Characteristics Per Diode

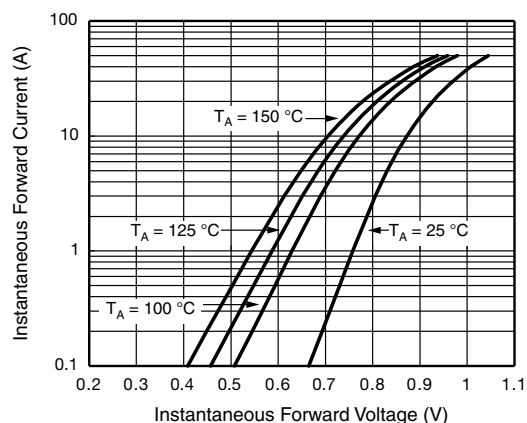


Fig. 4 - Typical Forward Characteristics Per Diode

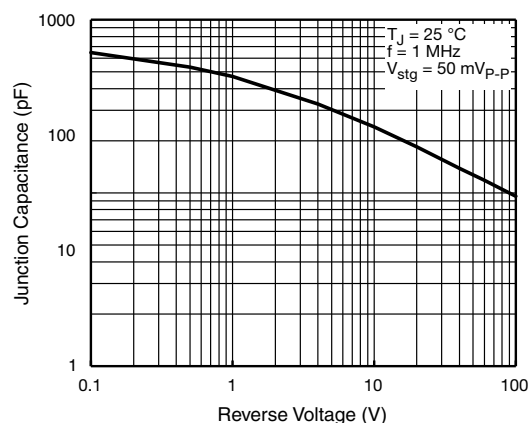
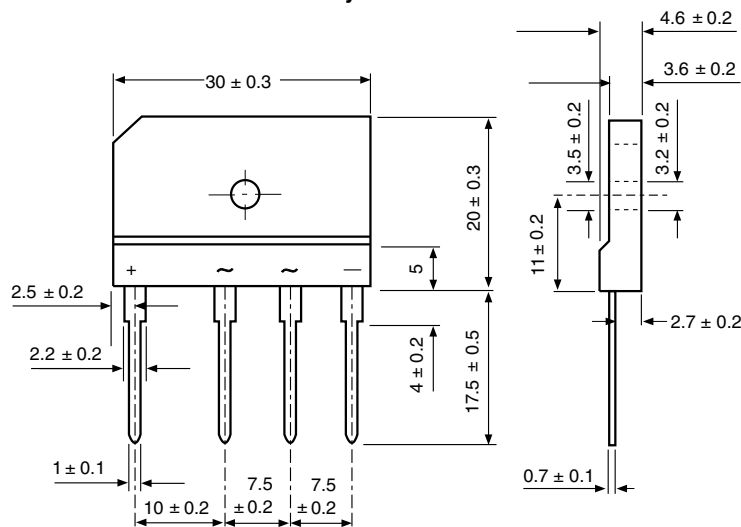


Fig. 6 - Typical Junction Capacitance Per Diode

PACKAGE OUTLINE DIMENSIONS in millimeters

Case Style GSIB-5S





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