

SuperPlanar™ Bridge Rectifiers

3SPB50J - 3SPB50K

Features

- Planar passivated chips
- Ultra low leakage reverse current
- High temperature performance
- High surge current capability
- Ideal for printed circuit boards
- High soldering temperature guaranteed: 260°C @ 10s
- RoHS compliant with Halogen-free



Mechanical Data

- Case: 3SPB molded plastic
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Leads solderable per MIL-STD-750

Maximum Ratings (@T_A = 25°C unless otherwise specified)

Parameter		Symbol	3SPB50J	3SPB50K	Unit
Peak repetitive reverse voltage		V _{RRM}	600	800	V
RMS reverse voltage		V _{RMS}	420	560	V
DC blocking voltage		V _{DC}	600	800	V
Maximum average forward output current *2		I _{F(AV)}	5.0		A
Peak forward surge current, 8.3ms single half-sine-wave	@T _J = 25°C	I _{FSM}	170		A
I ² t Rating for fusing	@T _J = 25°C	I ² t	120		A ² s

Thermal Characteristics

Parameter	Symbol	3SPB50J	3SPB50K	Unit
Typical thermal resistance per leg *1	R _{ΘJA}	38		°C/W
	R _{ΘJC}	10.4		
	R _{ΘJL}	7.5		
Operating junction temperature range	T _J	-55 ~ +150		°C
Storage temperature range	T _{STG}	-55 ~ +150		°C

Note *1: Device mounted on PCB with 10 mm x 20 mm x 0.1mm copper pad areas

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Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions		Typ.	Max.	Unit
Instantaneous Forward Voltage	V_F	$I_F = 2.5\text{A}$ per Diode		-	0.95	V
		$I_F = 5.0\text{A}$ per Diode		-	1.00	
Reverse Current	I_R	rated V_R , per Diode	@ $T_A = 25^\circ\text{C}$	0.5	1.0	μA
			@ $T_A = 150^\circ\text{C}$	40.0	100.0	

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Ratings and Characteristic Curves (@T_A=25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

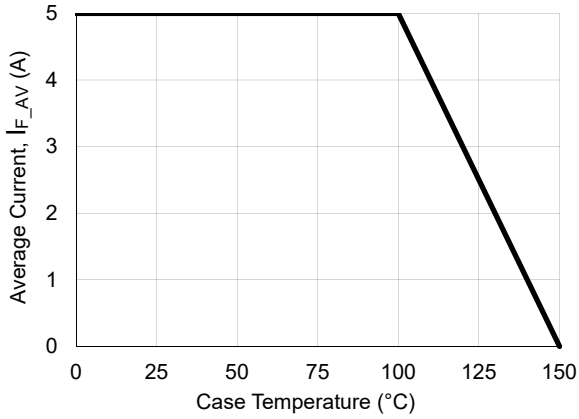


Fig.2 Surge Current Derating Curve

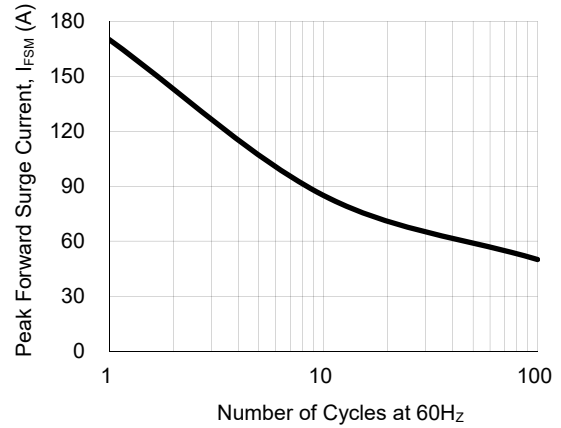


Fig.3 Typical Forward Voltage Characteristics

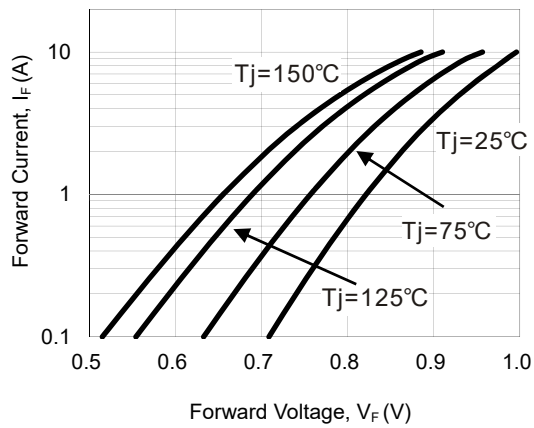
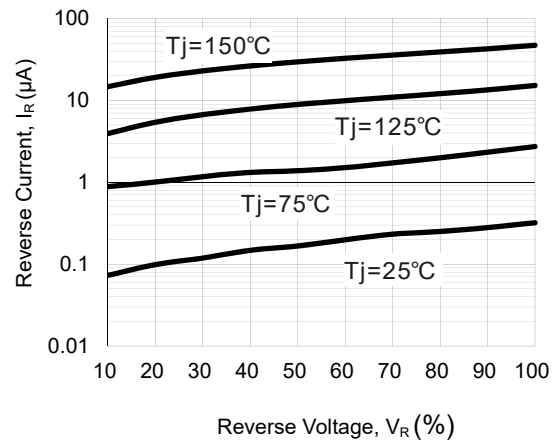


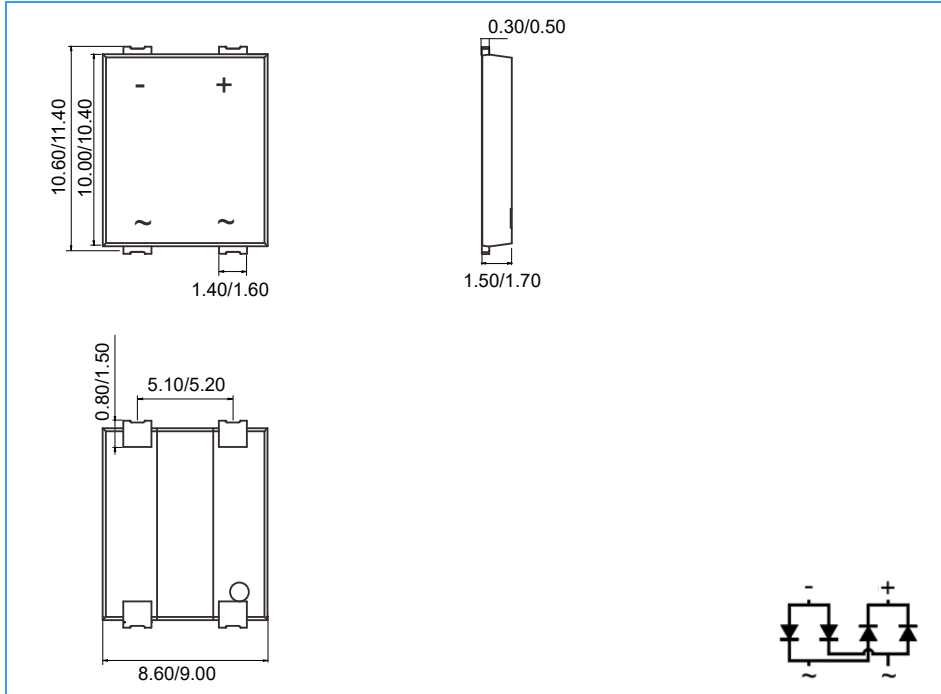
Fig.4 Typical Reverse Characteristics



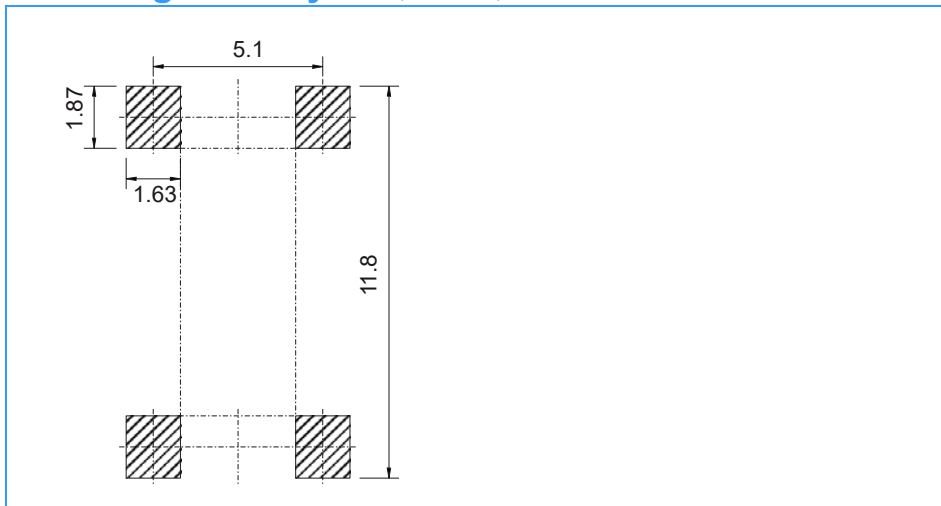
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Package Outline Dimensions (unit: mm)



Mounting Pad Layout (unit: mm)



Ordering Information

Part Number	Marking	Package	Shipping Quantity
3SPB50J	3SPB50J	3SPB	1500 / Tape & Reel
3SPB50K	3SPB50K	3SPB	1500 / Tape & Reel