

SuperPlanar™ Bridge Rectifiers

3SPB40J--3SPB40K

Features

- Planar passivated chips
- Ultra low leakage reverse current
- High temperature performance
- High surge current capability
- Ideal for printed circuit boards
- High temperature soldering guaranteed:
260°C/10 seconds



Mechanical Data

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

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

Characteristic		Symbol	3SPB40J	3SPB40K	Units
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		I _{F(AV)}	4.0		A
Peak forward surge current, 8.3ms single half-sine-wave	@T _J = 25°C	I _{FSM}	135		A
I ² t Rating for fusing	@T _J = 25°C	I ² t	76		A ² s

Thermal Characteristics

Parameter	Symbol	3SPB40J	3SPB40K	Units
Typical thermal resistance per leg (Note 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°C unless otherwise specified)

Parameter	Symbol	Test conditions	Typ.	Max.	Units	
Maximum instantaneous forward voltage	V _F	I _F =2.0A Per Diode	0.91	0.95	V	
		I _F =4.0A Per Diode	0.95	1.0		
Maximum Reverse current	I _R	Rated V _R , Per Diode	@T _A =25°C	0.5	1.0	μA
			@T _A =150°C	40	100	

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Ratings and Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

Fig.1-Forward Current Derating Curve

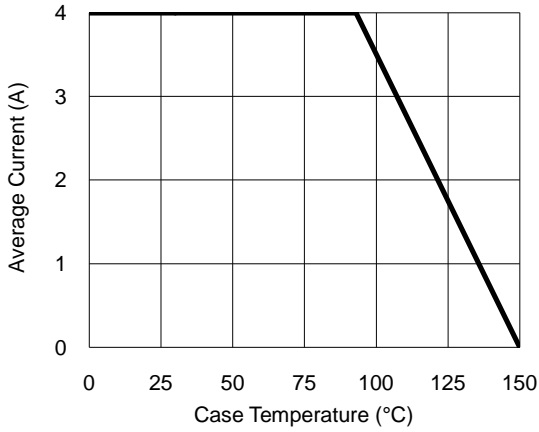


Fig.2- Surge Current Derating Curve

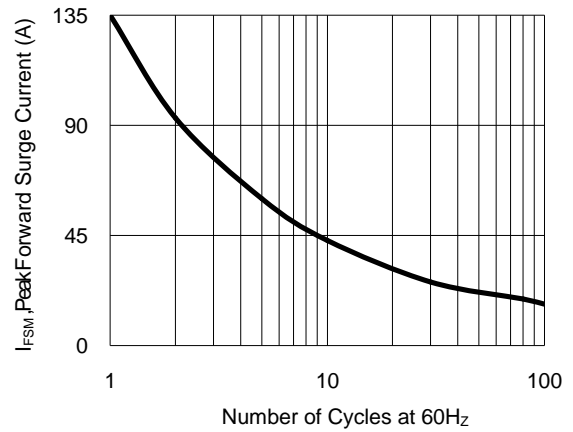


Fig.3- Typical Forward Voltage Characteristic

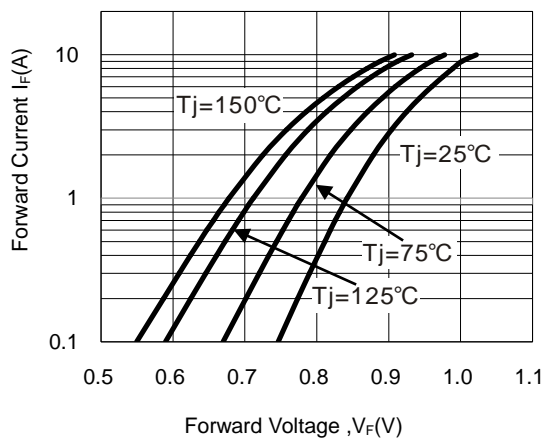
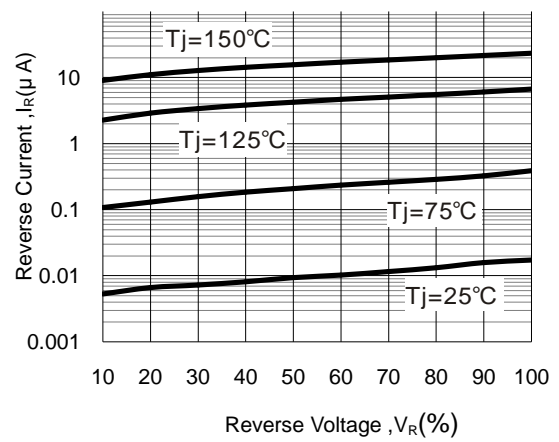


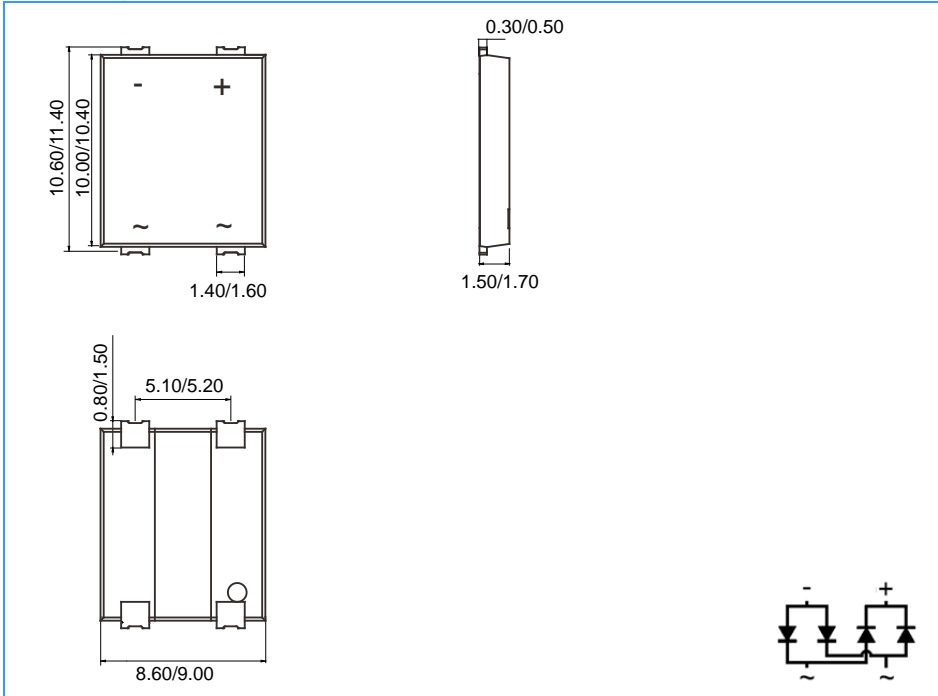
Fig.4- Typical Reverse Characteristic



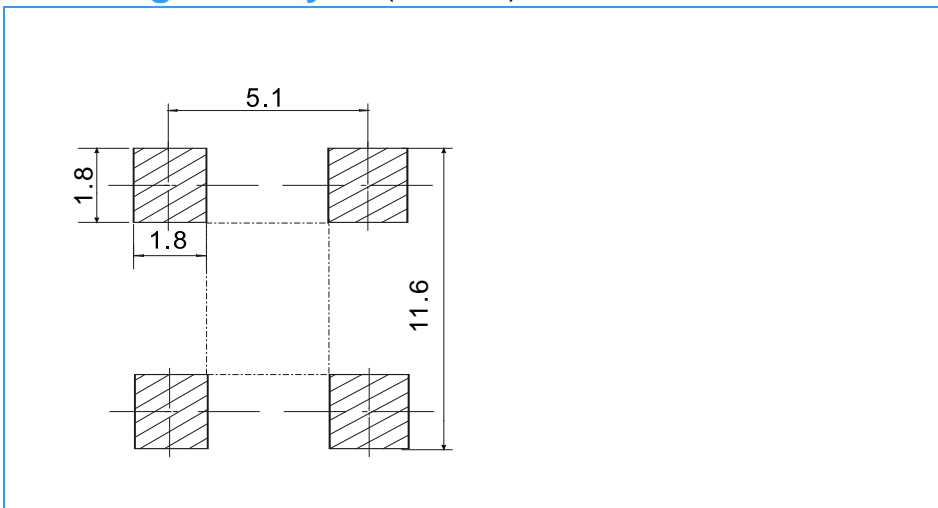
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Package Outline Dimensions(unit:mm)



Mounting Pad Layout(unit:mm)



Ordering Information

Part No.	Marking	Package	Shipping
3SPB40J	3SPB40J	3SPB	1500 /Tape&Reel
3SPB40K	3SPB40K	3SPB	1500 /Tape&Reel