

Silicon Bridge Rectifiers

F3SPB30K - F3SPB30M

Features

- Glass passivated junction
- High surge current capability
- Saves space on 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,
- Polarity: As marked on body

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

Parameter	Symbol	F3SPB30K	F3SPB30M	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	800	1000	V
RMS Reverse Voltage	V _{RMS}	560	700	V
DC Blocking Voltage	V _{DC}	800	1000	V
Maximum Average Forward Output Current	I _{F_AV}	3.0		A
Peak Forward Surge Current, 8.3ms Single Half-Sine-wave	I _{FSM}	100		A
I ² t Rating for fusing	I ² t	41.5		A ² s

Thermal Characteristics

Parameter	Symbol	F3SPB30K	F3SPB30M	Unit
Typical Thermal Resistance *1	R _{ΘJA}	50		°C/W
	R _{ΘJC}	10		
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 Condition		Typ.	Max.	Unit
Maximum Instantaneous Forward Voltage	V _F	I _F = 3.0A Per Diode		-	1.3	V
Maximum Reverse Current	I _R	Rated V _R	@ T _A = 25°C	-	10	μA
			@ T _A = 125°C	-	200	
Maximum Reverse Recovery Time	trr	I _F =0.5A,I _{RM} =1A, I _{R(REC)} =0.25A		-	500	ns

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

Fig.1 Forward Current Derating Curve

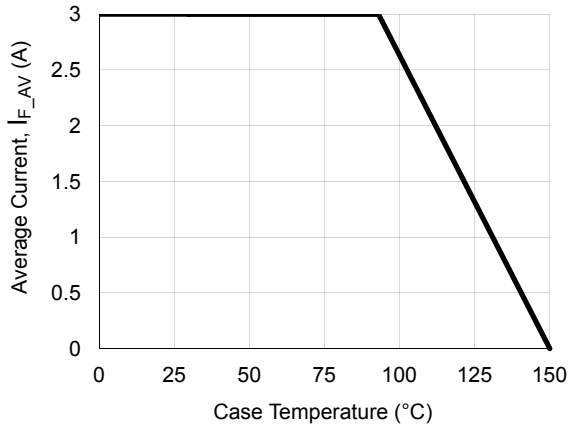


Fig.2 Surge Current Derating Curve

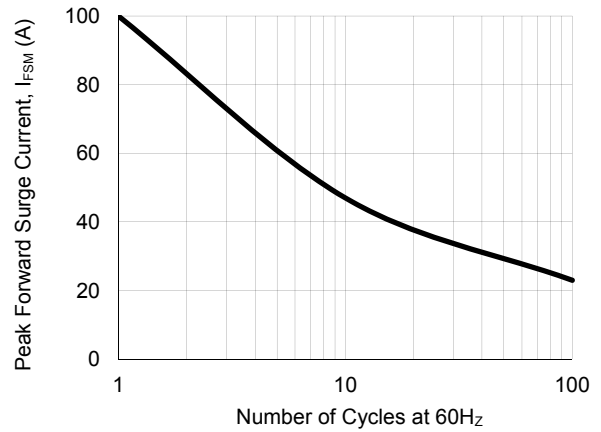


Fig.3 Typical Forward Voltage Characteristics

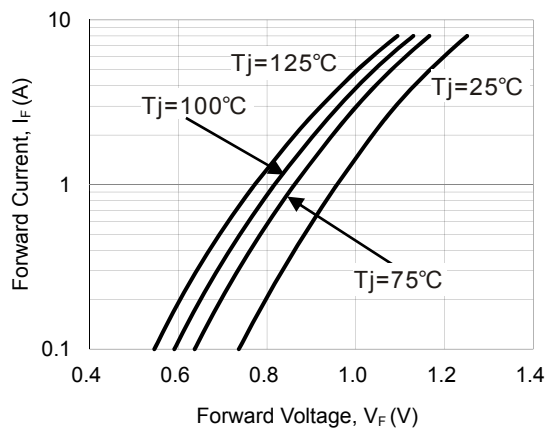
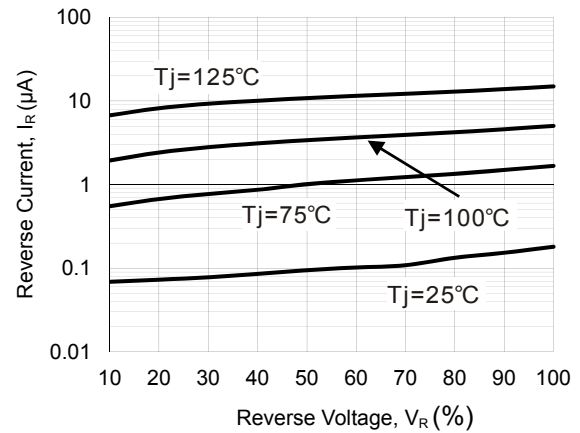


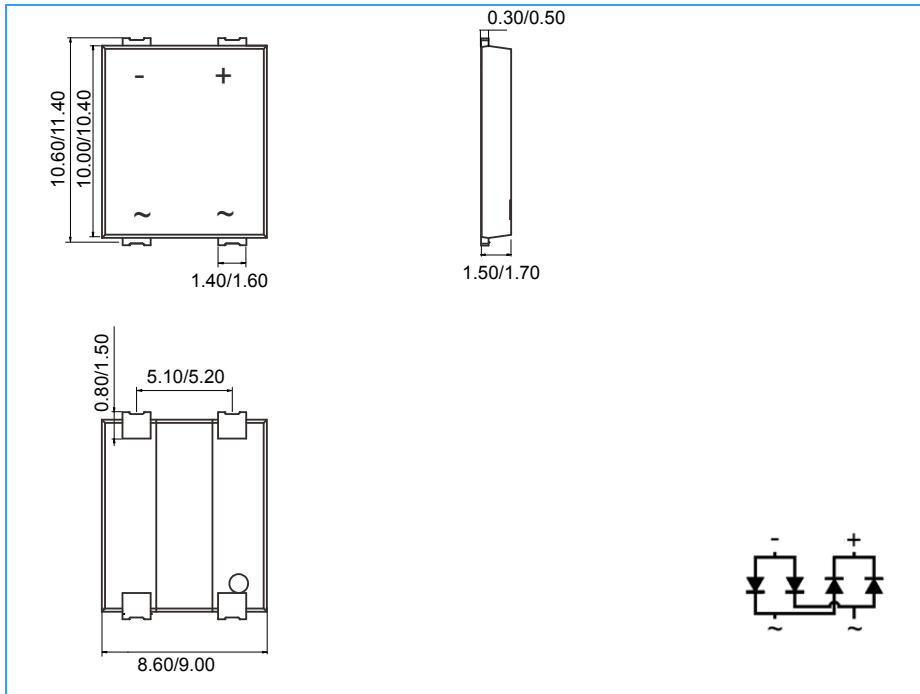
Fig.4 Typical Reverse Characteristics



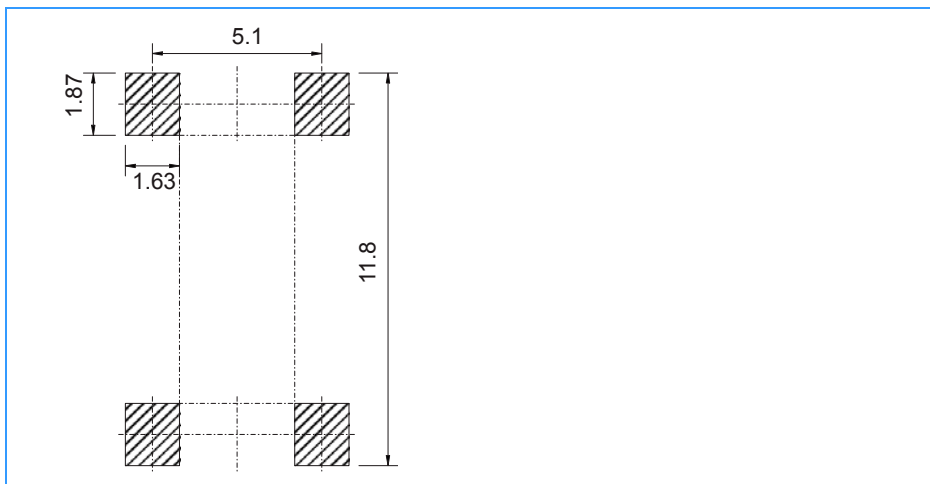
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Package Outline Dimensions (unit: mm)



Mounting Pad Layout (unit: mm)



Ordering Information

Part Number	Marking	Package	Shipping Quantity
F3SPB30K	F3SPB30K	3SPB	1500 pcs / Tape & Reel
F3SPB30M	F3SPB30M	3SPB	1500 pcs / Tape & Reel