Schottky Bridge Rectifiers

MBF38S--MBF310S

Features



- Metal silicon junction, majority carrier conduction
- High surge capability
- High temperature soldering guaranteed:
  260°C/10 seconds
- High current capability, low forward voltage drop
- Guarding for over voltage protection
- RoHS Compliant

Mechanical Data

- Case: MBF molded plastic
- Molding compound, UL flammability classification rating 94V-0
- Terminals: Matte tin plated leads, solderable perJ-STD-002 and JESD22-B102
- Polarity indicator: As marked on body

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

Characteristic	Symbol	MBF38S	MBF39S	MBF310S	Units
Peak repetitive reverse voltage	V_{RRM}	80	90	100	V
RMS reverse voltage	V_{RMS}	56	63	70	V
DC blocking voltage	V_{DC}	80	90	100	V
Maximum average forward output current	$I_{F(AV)}$	3.0			A
Peak forward surge current, 8.3ms single half-sine-wave	I_{FSM}	80			A

Thermal Characteristics

Parameter	Symbol	MBF38S	MBF39S	MBF310S	Units
Typical thermal resistance per leg (Note 1)	$R_{\Theta JA}$	72			°C /W
	$R_{\Theta JC}$	31			
	$R_{\Theta JL}$	15			
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(Note 1)	V_F	I_F=3.0A Per Diode	@T_A=25°C	--	0.85	V
Maximum Reverse current (Note 2)	I_R	Rated V_R, Per Diode	@T_J=25°C	--	250	μ A
			@T_J=100°C	--	10	m A

Note:

1.Pulse test: 300us pulse width, 1 % duty cycle

2.Pulse test: Pulse width 40ms

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

Fig.1-Forward Current Derating Curve

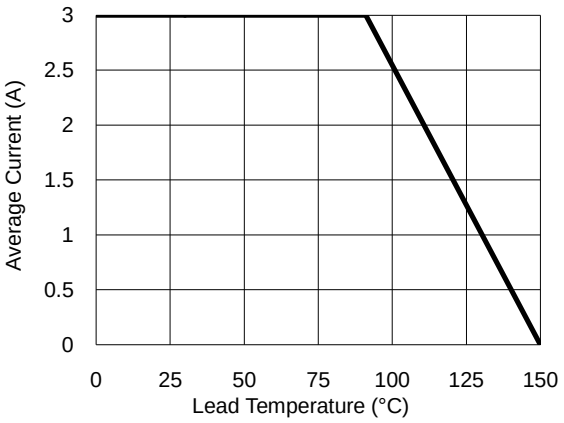


Fig.2- Surge Current Derating Curve

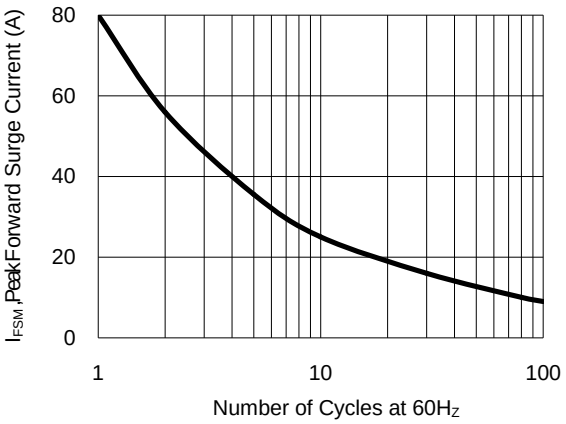


Fig.3- Typical Forward Voltage Characteristic

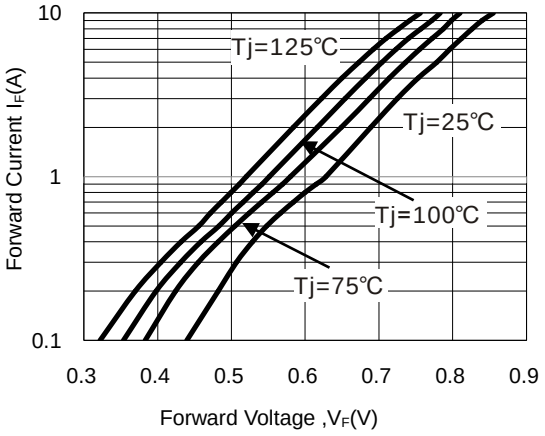
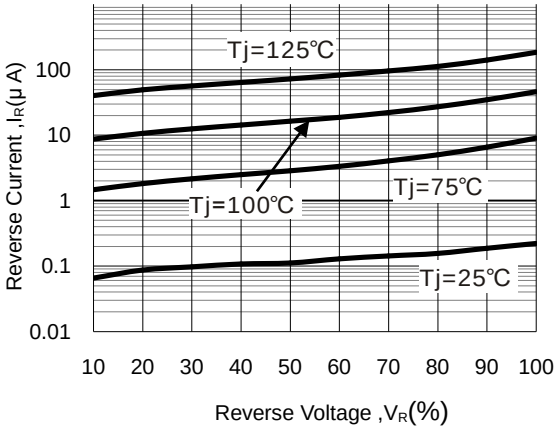
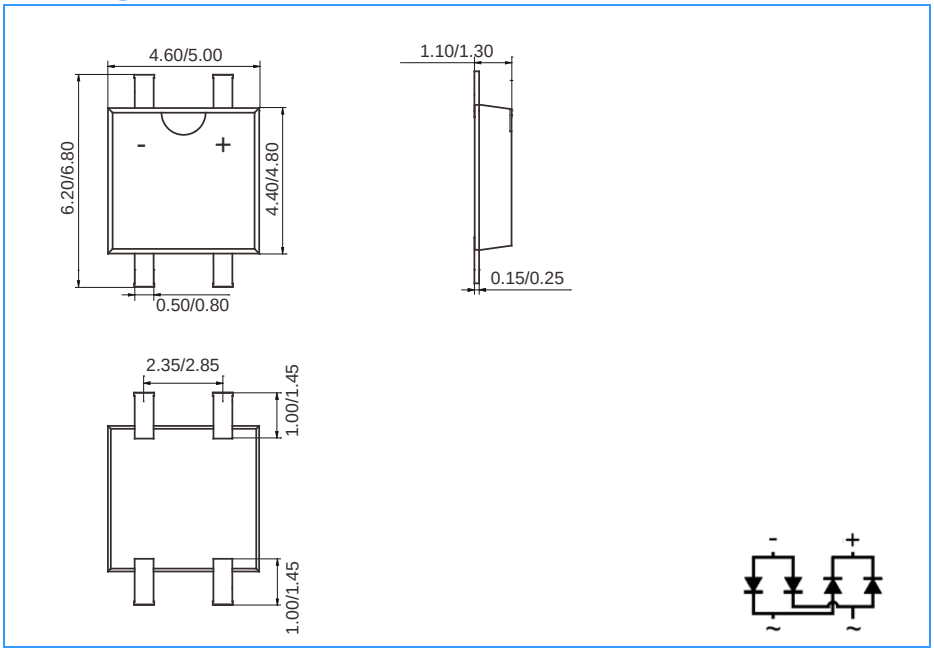


Fig.4- Typical Reverse Characteristic

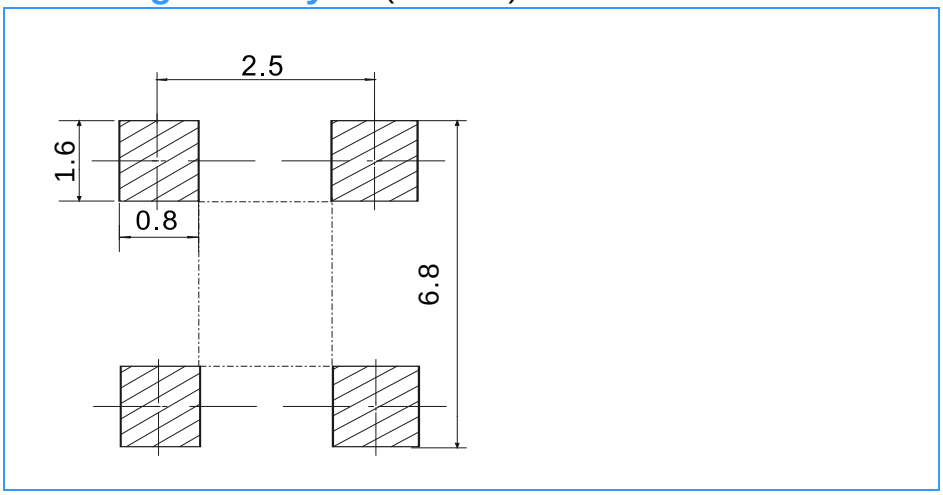


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Package Outline Dimensions(unit:mm)



Mounting Pad Layout(unit:mm)



Ordering Information

Part No.	Marking	Package	Shipping
MBF38S	MBF38S	MBF	5000 / Tape&Reel
MBF310S	MBF310S	MBF	5000 / Tape&Reel