

# Schottky Barrier Rectifiers

## SH52B--SH54B

### 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: SMB molded plastic
- Molding compound, UL flammability classification rating 94V-0
- Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD22-B102
- Polarity: Color band denotes cathode end

### Maximum Ratings (@T<sub>A</sub> = 25°C unless otherwise specified)

Characteristic	Symbol	SH52B	SH53B	SH54B	Units
Peak repetitive reverse voltage	V <sub>RRM</sub>	20	30	40	V
RMS reverse voltage	V <sub>RMS</sub>	14	21	28	V
DC blocking voltage	V <sub>DC</sub>	20	30	40	V
Maximum average forward output current	I <sub>F(AV)</sub>	5.0			A
Peak forward surge current, 8.3ms single half-sine-wave	I <sub>FSM</sub>	150			A

### Thermal Characteristics

Parameter	Symbol	SH52B	SH53B	SH54B	Units
Typical thermal resistance (Note 1)	R <sub>θJA</sub>	60			°C/W
	R <sub>θJC</sub>	23			
	R <sub>θJL</sub>	25			
Operating junction temperature range	T <sub>J</sub>	- 55 ---- + 150			°C
Storage temperature range	T <sub>STG</sub>	- 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.	Units
Maximum instantaneous forward voltage(Note 1)	$V_F$	$I_F=5.0\text{A}$	@ $T_A=25^\circ\text{C}$	--	0.55	V
Maximum Reverse current (Note 2)	$I_R$	Rated $V_R$ ,	@ $T_J=25^\circ\text{C}$	--	250	$\mu\text{A}$
			@ $T_J=100^\circ\text{C}$	--	15	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 ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)

Fig.1-Forward Current Derating Curve

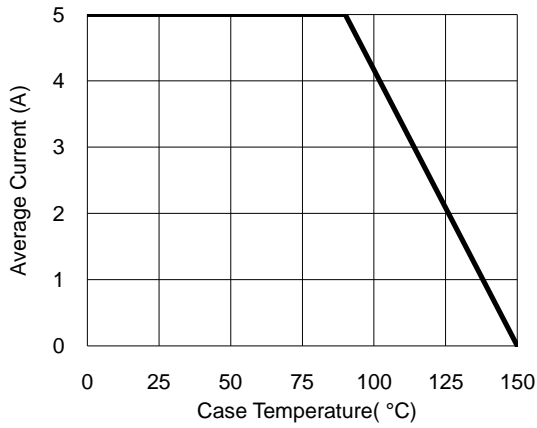


Fig.2- Surge Current Derating Curve

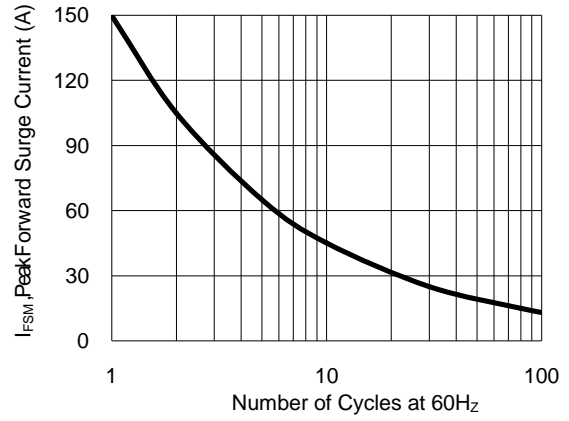


Fig.3- Typical Forward Voltage Characteristic

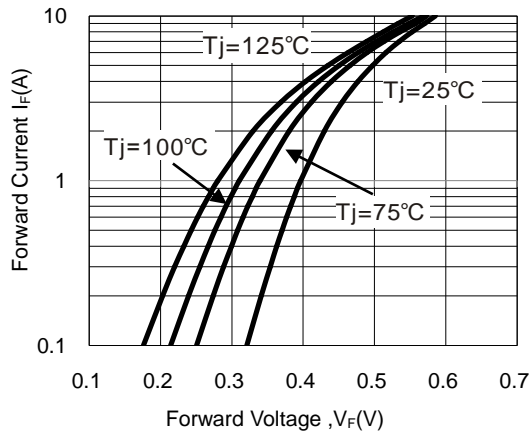
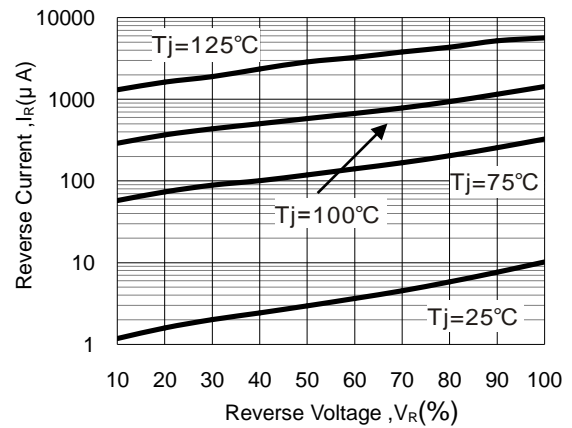


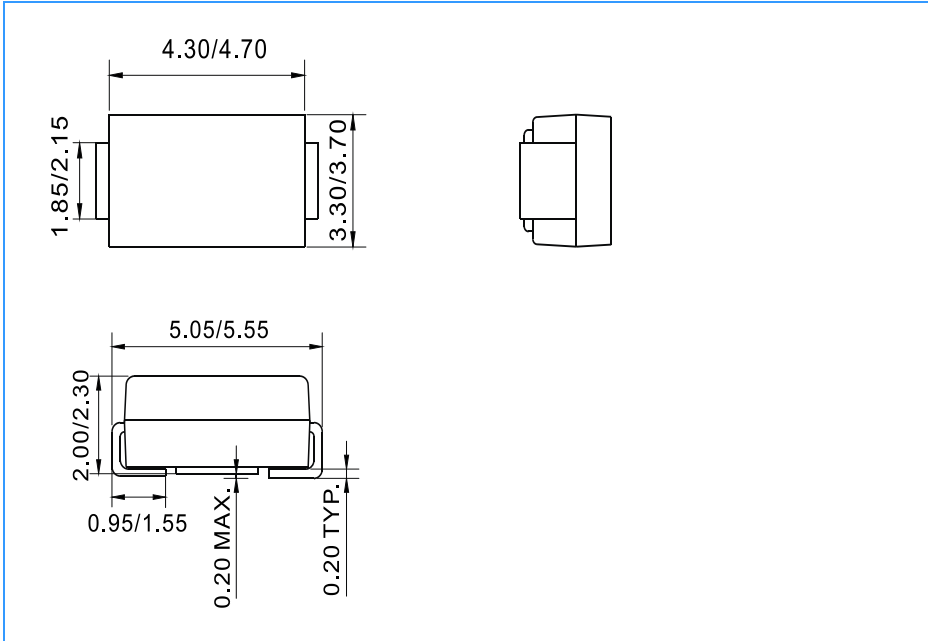
Fig.4- Typical Reverse Characteristic



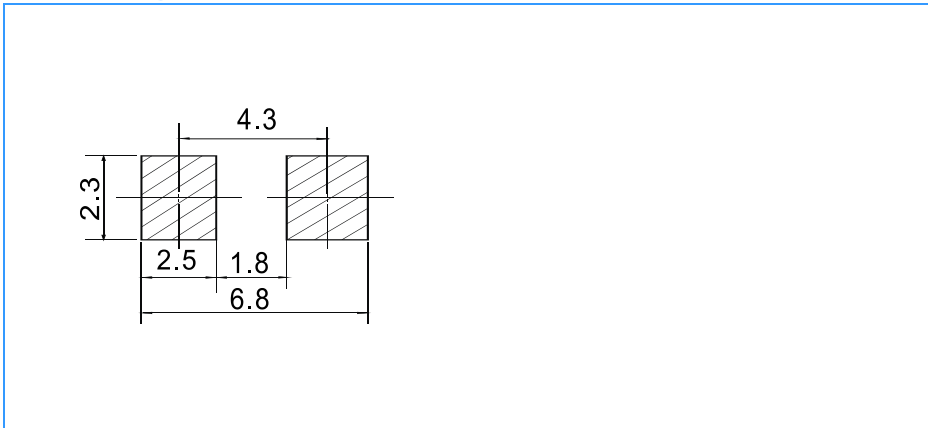
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## Package Outline Dimensions(unit:mm)



## Mounting Pad Layout(unit:mm)



## Ordering Information

Part No.	Marking	Package	Shipping
SH52B	SH52B	SMB	3000 / Tape&Reel
SH53B	SH53B	SMB	3000 / Tape&Reel
SH54B	SH54B	SMB	3000 / Tape&Reel