

# Schottky Barrier Rectifier

## SS38 - SS310

### Features

- Metal silicon junction, majority carrier conduction
- High forward surge current capability
- Low forward voltage drop
- High temperature soldering guaranteed: 260°C @ 10s
- Robust guarding for over voltage protection
- RoHS compliant with Halogen-free



### Mechanical Data

- Case: SMC 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)

Parameter	Symbol	SS38	SS39	SS310	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	80	90	100	V
RMS Reverse Voltage	V <sub>RMS</sub>	56	63	70	V
DC Blocking Voltage	V <sub>DC</sub>	80	90	100	V
Maximum Average Forward Output Current	I <sub>F_AV</sub>	3.0			A
Peak Forward Surge Current, 8.3ms Single Half Sine wave	I <sub>FSM</sub>	80			A

### Thermal Characteristics

Parameter	Symbol	SS38	SS39	SS310	Unit
Typical Thermal Resistance *1	R <sub>θJA</sub>	56			°C/W
	R <sub>θJC</sub>	23			
	R <sub>θJL</sub>	14			
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 p.c.b. with 10 mm x 20 mm x 0.1 mm copper pad area

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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 <sup>*1</sup>	$V_F$	$I_F = 3.0\text{A}$	@ $T_A = 25^\circ\text{C}$	-	0.80	V
Reverse Current <sup>*2</sup>	$I_R$	Rated $V_R$	@ $T_J = 25^\circ\text{C}$	-	30	$\mu\text{A}$
			@ $T_J = 100^\circ\text{C}$	-	5	mA

Note<sup>\*1</sup>: Pulse test: 300us pulse width, 1 % duty cycle

Note<sup>\*2</sup>: 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

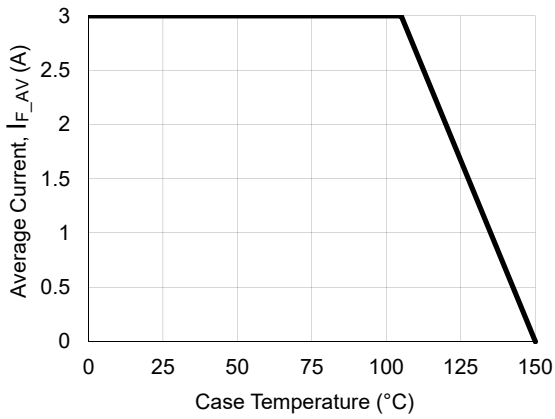


Fig.2 Surge Current Derating Curve

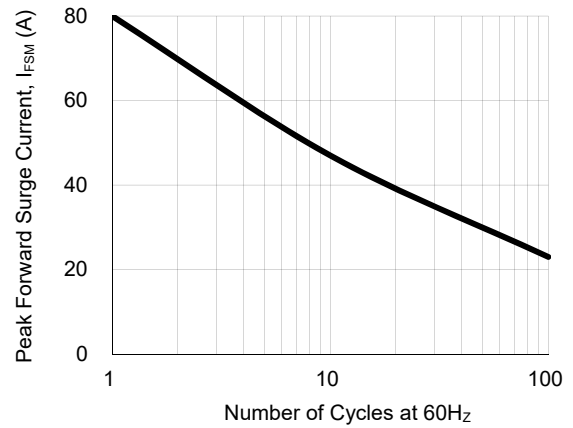


Fig.3 Typical Forward Voltage Characteristics

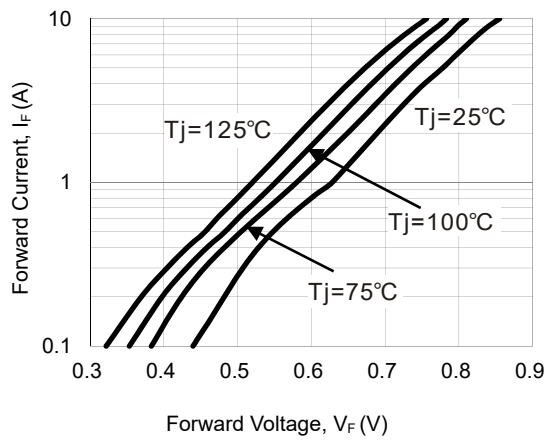
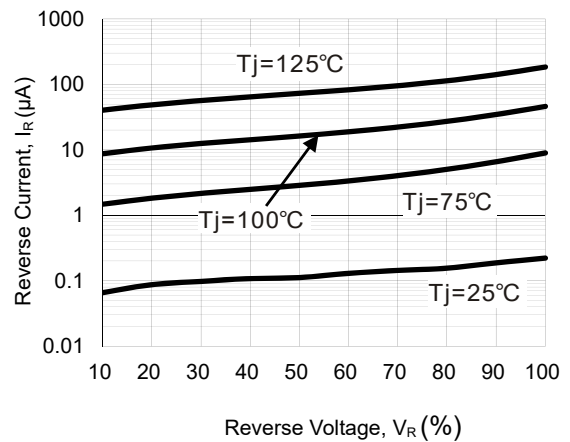


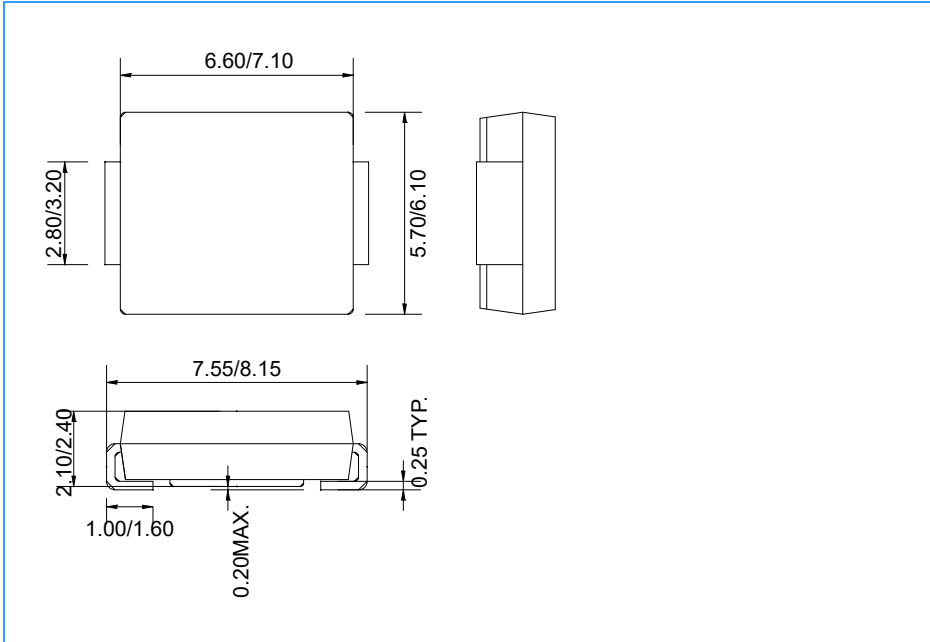
Fig.4 Typical Reverse Characteristics



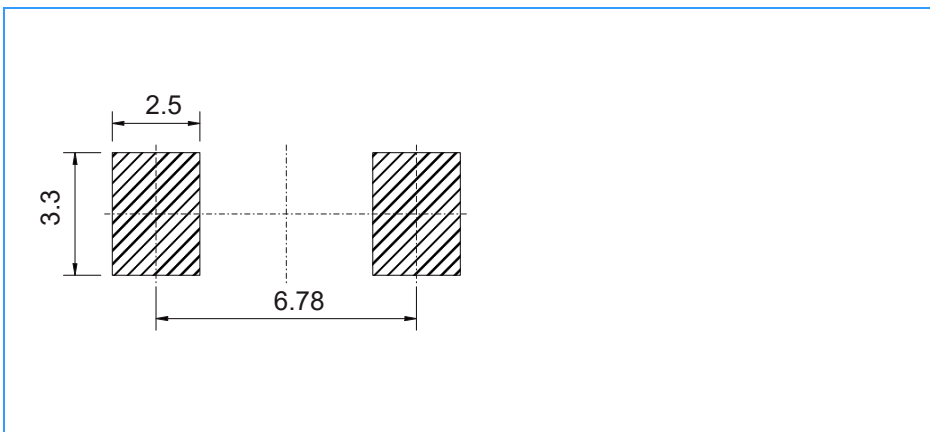
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## Package Outline Dimensions (Unit: mm)



## Mounting Pad Layout (Unit: mm)



## Ordering Information

Part Number	Marking	Package	Shipping Quantity
SS38	SS38	SMC	3000 / Tape & Reel
SS39	SS39	SMC	3000 / Tape & Reel
SS310	SS310	SMC	3000 / Tape & Reel