

## Low Forward Voltage Schottky Rectifiers

SS54B

40 V

5A

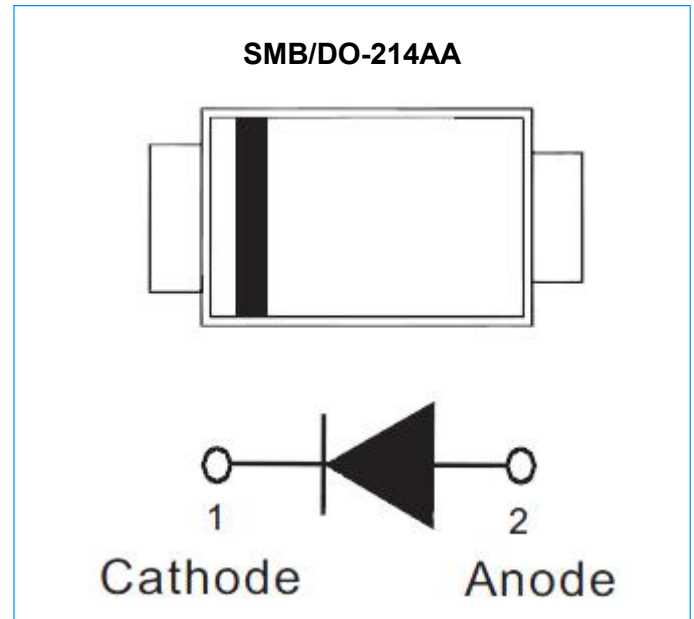
SMB/DO-214AA

### Features

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0 utilizing Flame Retardant Epoxy Molding Compound.
- ◆ Lead free in compliance with EU RoHS 2.0.
- ◆ Green molding compound as per IEC 61249 standard.

### Mechanical Data

- ◆ Case: JEDEC DO-214AA molded plastic
- ◆ Terminals: Axial leads, solderable per MIL-STD-750, Method 2026
- ◆ Polarity: Color band denotes cathode end
- ◆ Weight: 0.0032 ounces, 0.092 grams



### Maximum Ratings ( $T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	40	V
Maximum RMS Voltage	$V_{RMS}$	28	V
Maximum DC Blocking Voltage	$V_R$	40	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	5	A
Peak Forward Surge Current : 8.3ms Single Half Sinewave Superimposed on Rated Load	$I_{FSM}$	100	A
Typical Thermal Resistance (Note 1)	$R_{\theta JA}$ $R_{\theta JL}$	40 10	$^\circ\text{C/W}$
Operating Junction Temperature Range	$T_J$	-55 to +150	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to +150	$^\circ\text{C}$

**Note:** 1. Mounted on 48cm<sup>2</sup> FR-4 PCB.

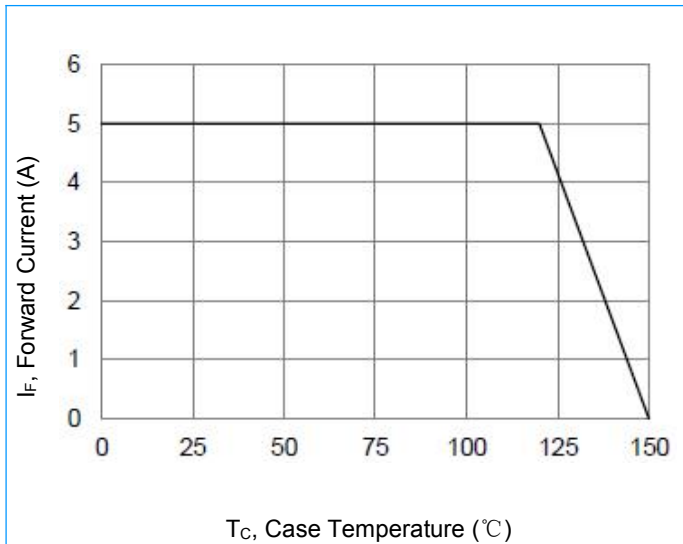
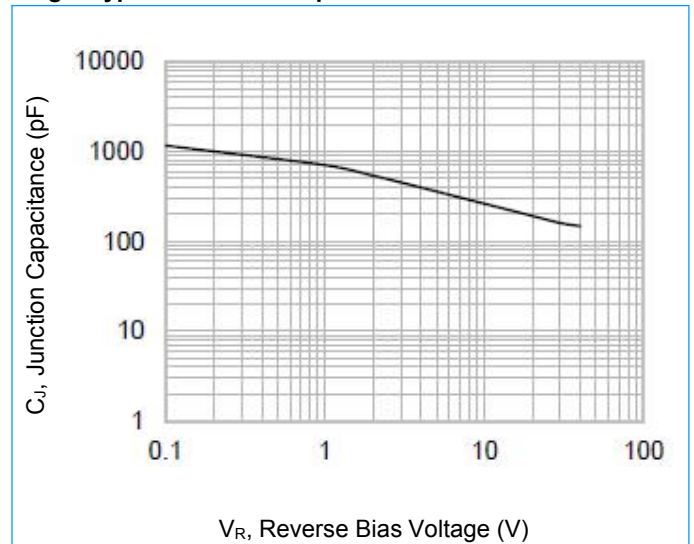
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### Electrical Characteristics ( $T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit	
Breakdown Voltage	$V_{BR}$	$I_R = 1\text{mA}$	40	--	--	V	
Instantaneous Forward Voltage	$V_F$	$I_F = 1\text{A}$	--	0.34	--	V	
		$I_F = 3\text{A}$		0.40			
		$I_F = 5\text{A}$		0.44			0.46
		$I_F = 1\text{A}$	--	--	0.21	--	V
		$I_F = 3\text{A}$			0.30		
		$I_F = 5\text{A}$			0.36		
Reverse Current	$I_R$	$V_R = 32\text{V}$	--	21	--	$\mu\text{A}$	
		$V_R = 40\text{V}$	$T_J = 25^\circ\text{C}$	--	--	100	$\mu\text{A}$
			$T_J = 125^\circ\text{C}$	--	25	--	$\text{mA}$

### Rating and Characteristic Curves

**Fig1. Forward Current Derating Curve**

**Fig2. Typical Junction Capacitance**


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## Rating and Characteristic Curves (Continue)

Fig3. Typical Reverse Characteristics

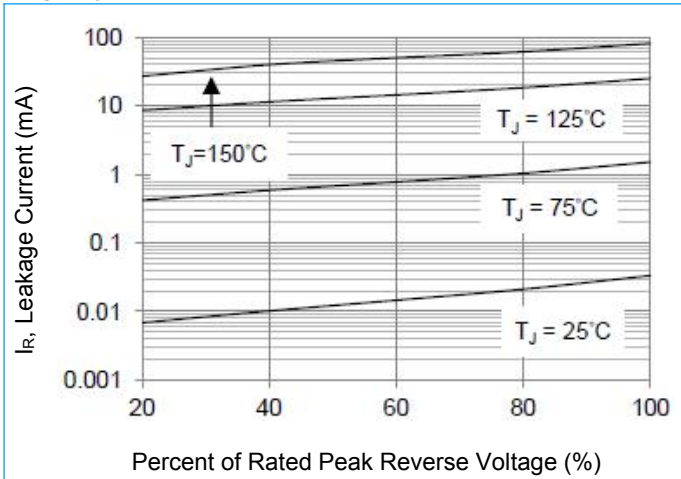


Fig4. Typical Forward Characteristics

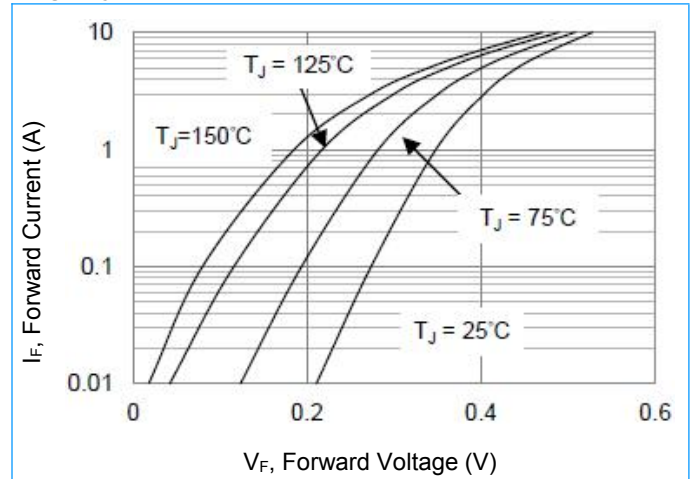
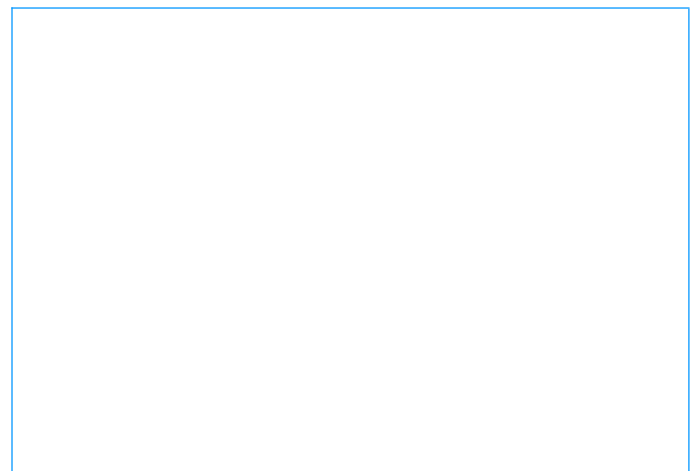
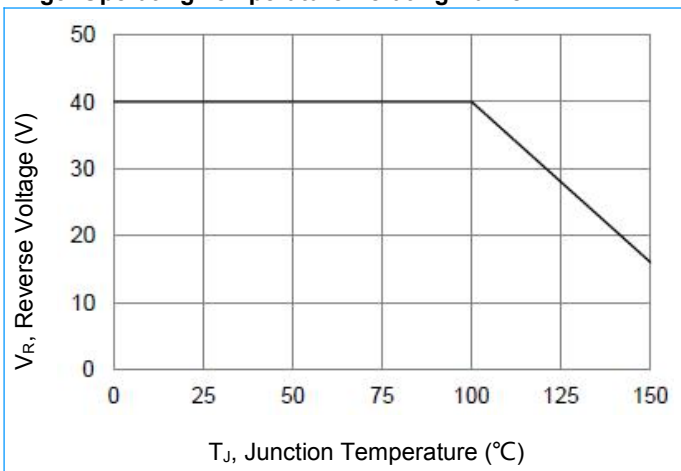


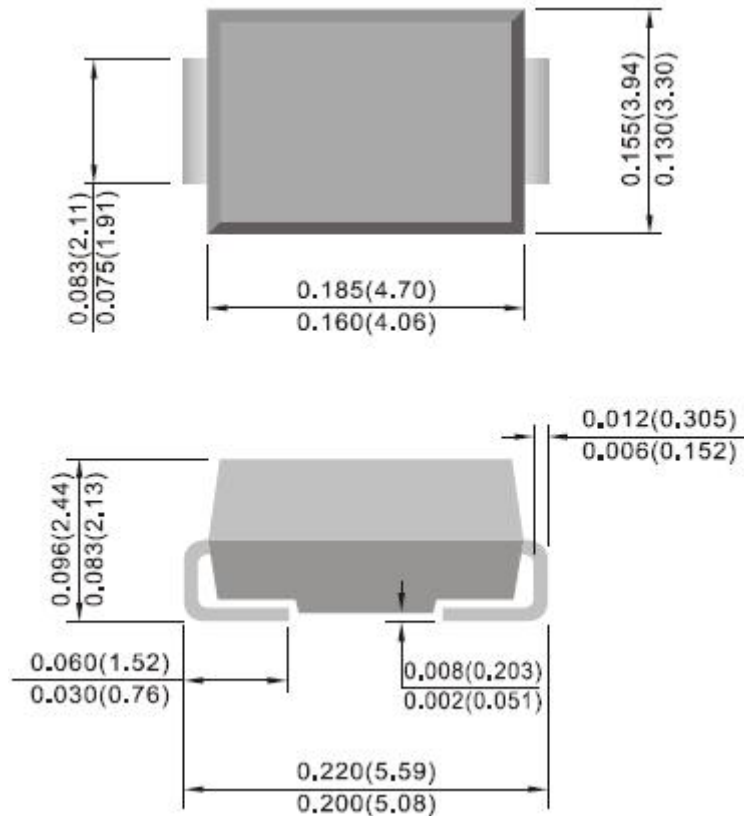
Fig5. Operating Temperature Derating Curve



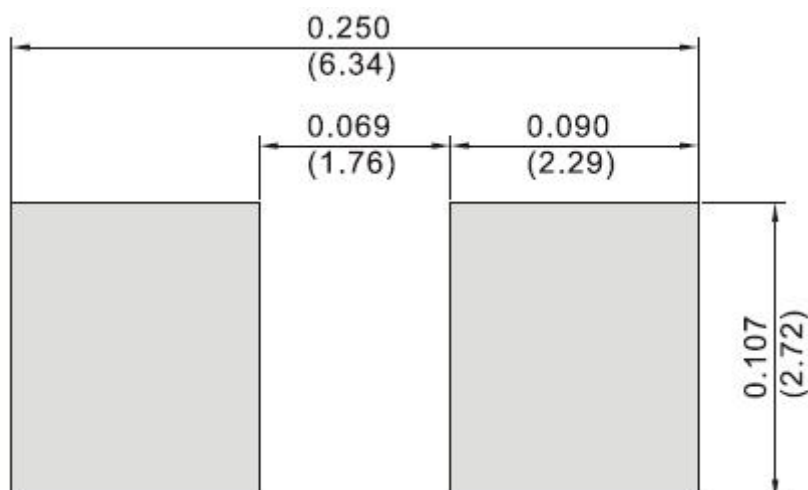
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### SMB/DO-214AA Package Outline (Unit: inch(mm))



### SMB/DO-214AA Mounting Pad Layout (Unit: inch(mm))



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### Packaging Information

Part Number	Component Package	Quantity	Packaging Option
<b>SS54B</b>	SMB/DO-214AA	3000 PCS	per 13" plastic Reel
		800 PCS	per 7" plastic Reel