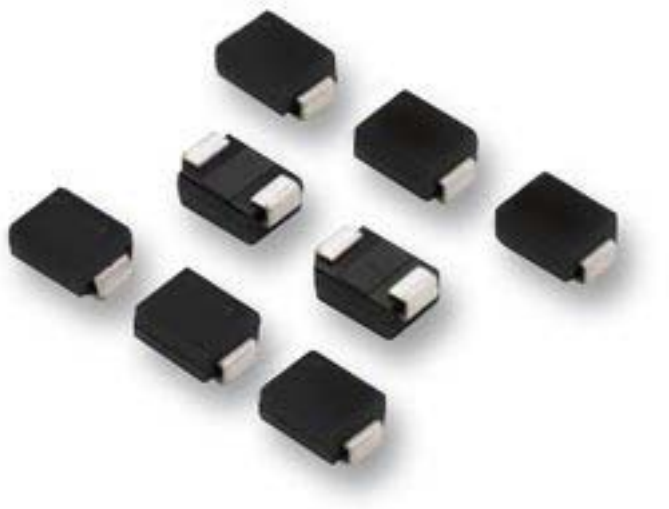
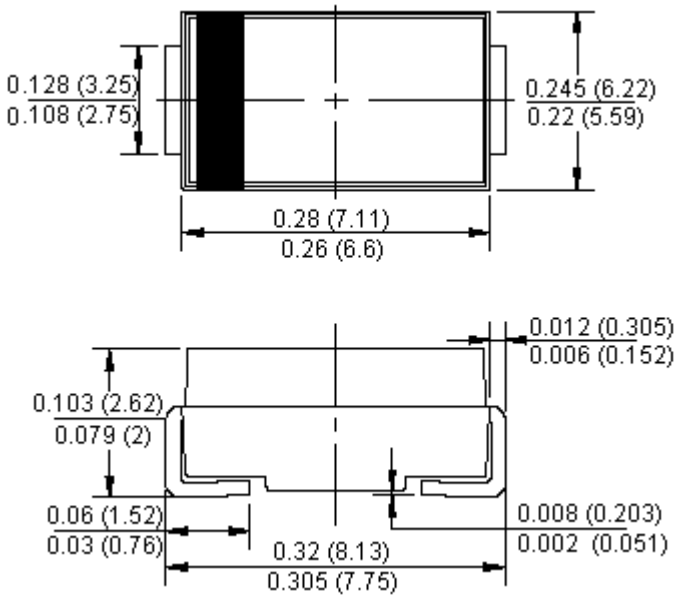
Schottky Barrier Rectifier



Reverse Voltage - 40 V
Forward Current - 5 Amperes

SMC



Dimensions : Inches (Millimetres)

Features:

- Surface mount.
- Metal-semiconductor junction with guard ring.
- Epitaxial construction.
- Low forward voltage drop.
- High current capability.
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.

Mechanical Data

Case : Moulded plastic.
Polarity : Colour band denotes cathode.
Weight : 0.007 oz, 0.21 g.

Maximum Ratings and Electrical Characteristics

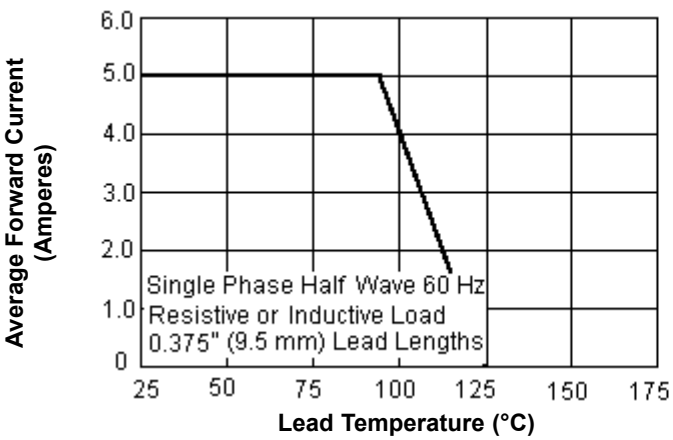
Rating at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Characteristics	Symbol	SS54	Unit
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	40	V
Maximum RMS Voltage	V_{RMS}	28	
Maximum DC Blocking Voltage	V_{DC}	40	
Maximum Average Forward Rectified Current 0.375" (9.5 mm) Lead Lengths at T_L = 95°C	$I_{(AV)}$	5	A
Peak Forward Surge Current 8.3 ms Single Half Sine-wave Super Imposed on Rated Load (JEDEC Method)	I_{FSM}	150	
Maximum Forward Voltage at 5 A dc	V_F	0.55	V
Maximum DC Reverse Current at T_J = 25°C Rated DC Blocking Voltage at T_J = 100°C	I_R	1 50	mA
Typical Junction Capacitance (Note 1)	C_J	500	pF
Typical Thermal Resistance (Note 2)	$R_{\theta JA}$	15	°C/W
Operating Temperature Range	T_J	-55 to +125	°C
Storage Temperature Range	T_{STG}	-55 to +150	

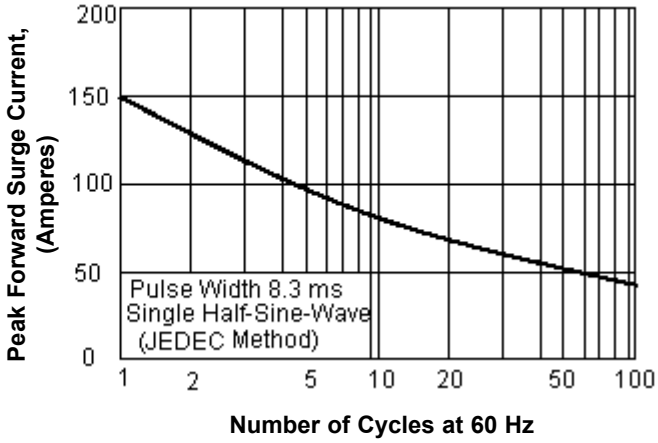
Notes : 1. Measured at 1 MHz and applied reverse voltage of 4 V dc.
2. Thermal resistance junction to ambient.

Rating and Characteristics Curves

Forward Current Derating Curve

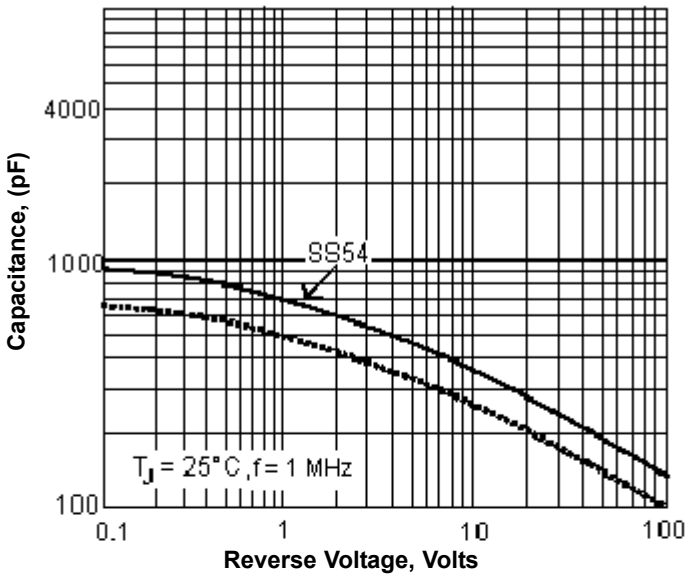


Maximum Non-Repetitive Surge Current

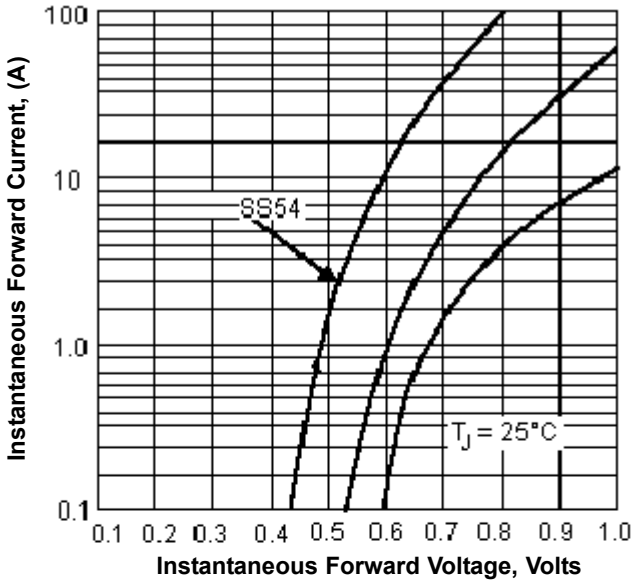


Rating and Characteristics Curves

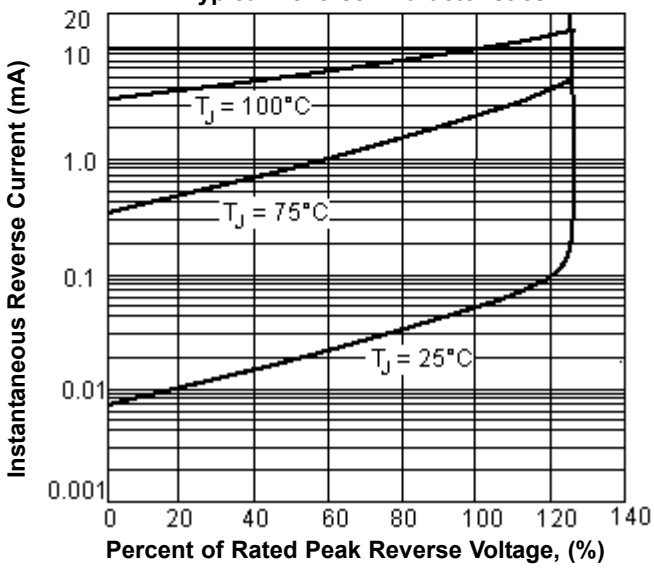
Typical Junction Capacitance



Typical Forward Characteristics



Typical Reverse Characteristics



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