

SuperSchottky – 5A, 40~200V Schottky barrier rectifiers



1. Features

- Epitaxial Construction
- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- High Current Capability and Low Forward Voltage Drop
- Surge Overload Rating to 150A Peak
- For Use in Low Voltage, High Frequency inverters, Free Wheeling, and Polarity Protection Applications.
- In compliance with EU RoHS 2002/95/EC directives

2. Mechanical Data

- Case: JEDEC DO-214AB molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Standard packaging: 16mm tape (EIA-481)
- Weight: 0.0082 ounces, 0.2325 grams
- Marking: Part number

3. Marking and Circuit

Marking	Circuit
	

4. Specification

Absolute Maximum Rating & Electrical Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Single phase half-wave 60Hz, resistive or inductive load.

Parameters	Symbol	SK54	SK545	SK55	SK56	SK58	SK59	SK510	SK515	SK520	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	40	45	50	60	80	90	100	150	200	V
Maximum RMS voltage	V_{RMS}	28	31.5	35	42	56	63	70	105	140	V
Maximum DC blocking voltage	V_{DC}	40	45	50	60	80	90	100	150	200	V
Average Rectified Output Current (See Figure 1)	$I_{F(AV)}$	5.0									A
Non-Repetitive Peak Forward Surge Current: 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	150									A
forward voltage at 5.0A DC (NOTES 3)	V_F	0.55		0.7		0.85		0.9			V
Maximum DC reverse current at rated DC blocking voltage	I_R	$T_J=25\text{ }^\circ\text{C}$	0.05								mA
		$T_J=100\text{ }^\circ\text{C}$	10								
Typical thermal resistance (NOTES 2) (NOTES 1) (NOTES 1)	$R_{\theta JA}$					50					$^\circ\text{C/W}$
	$R_{\theta JL}$					15					
	$R_{\theta JC}$					12					
Operating junction temperature range	T_J	-55 TO +150								-65 TO +150	$^\circ\text{C}$
Storage temperature range	T_{STG}	-55 TO +150								-65 TO +150	$^\circ\text{C}$

Note:

1. Measured at ambient temperature at a distance of 9.5mm from the case
2. Minimum Pad Area
3. Pulse test: 300µs pulse width, 1% duty cycle

5. Typical Characteristic

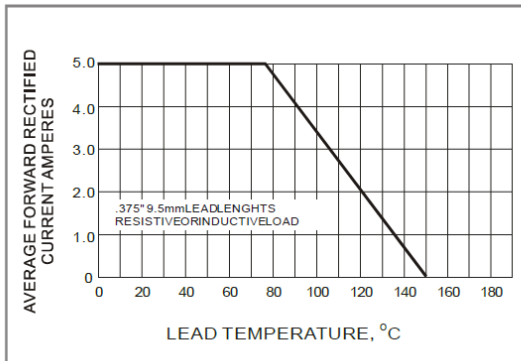


Fig.1- FORWARD CURRENT DERATING CURVE

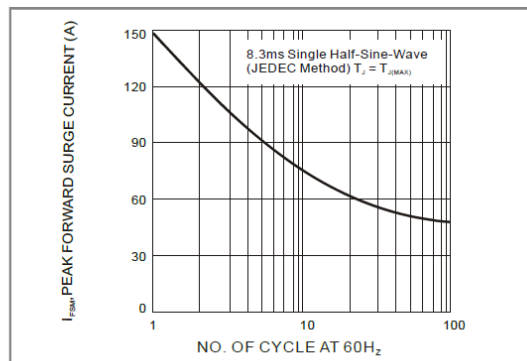


Fig.2 -MAXIMUM NON-REPETITIVE SURGE CURRENT

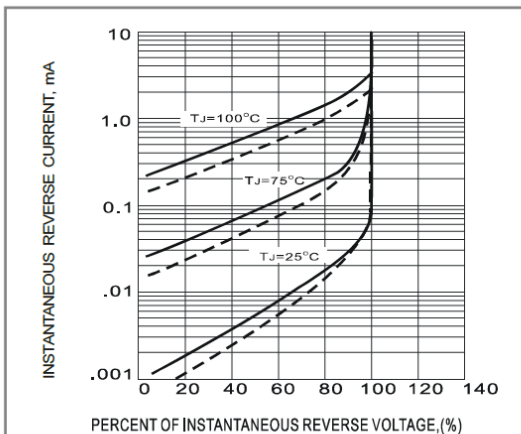


Fig.3-TYPICAL REVERSE CHARACTERISTIC

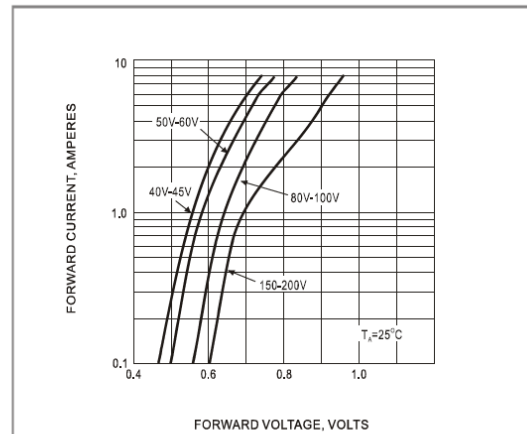


Fig.4- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC

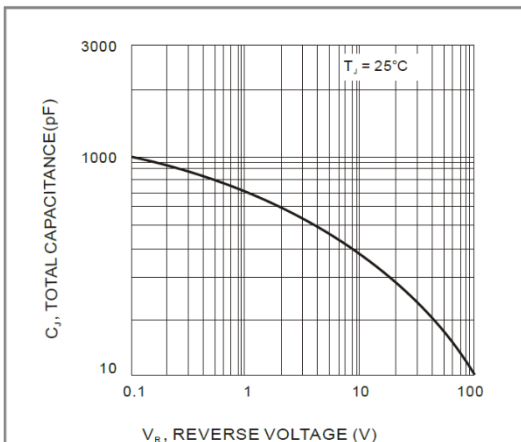
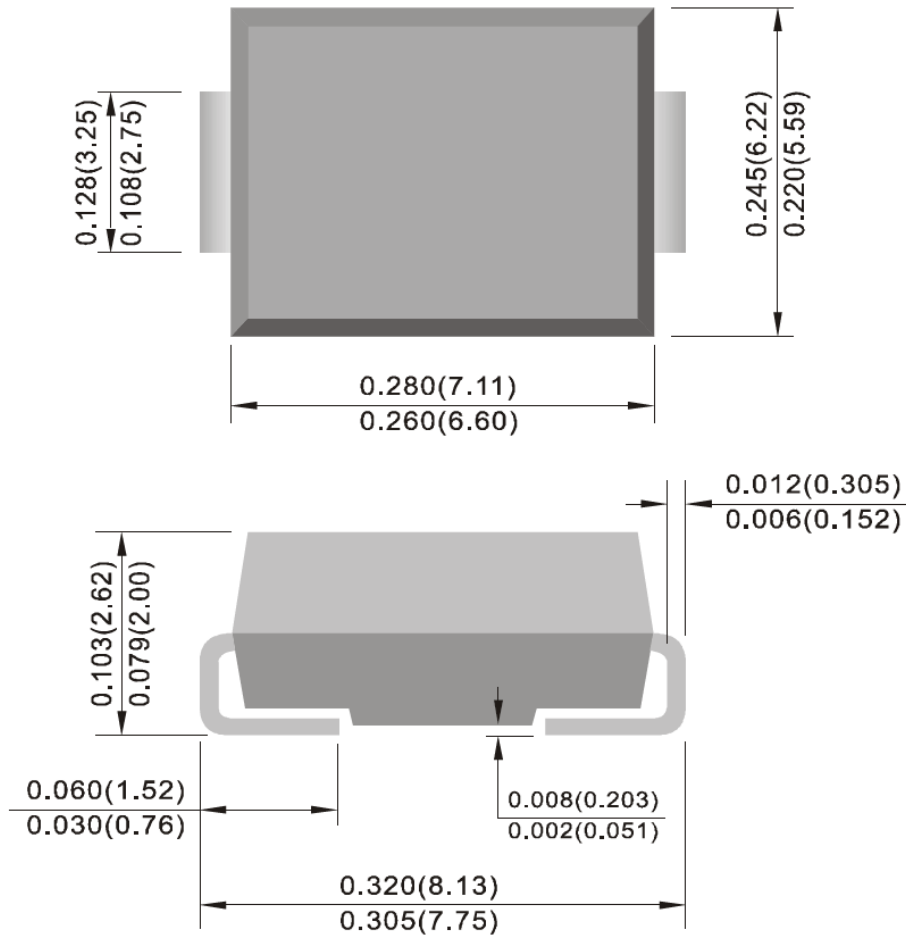


Fig.5-TYPICAL TOTAL CAPACITANCE

6. Dimension

SMC(DO-214AB)



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