

Schottky Barrier Rectifiers

Reverse Voltage 20 to 200V Forward Current 5.0 A

Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- High forward surge capability
- Guard Ring Protection
- Low Forward Voltage
- High temperature soldering: 260°C/10 seconds at terminals
- For use in low voltage high frequency inverters, free wheeling, and polarity protection applications

Mechanical Data

- **Case:** JEDEC DO-214AC molded plastic body over glass passivated chip
- **Terminals:** Solder plated, solderable per MIL-STD-750, method 2026
- **Polarity:** Color band denotes cathode end

Maximum Ratings & Thermal Characteristics (T_A=25°C unless otherwise noted)

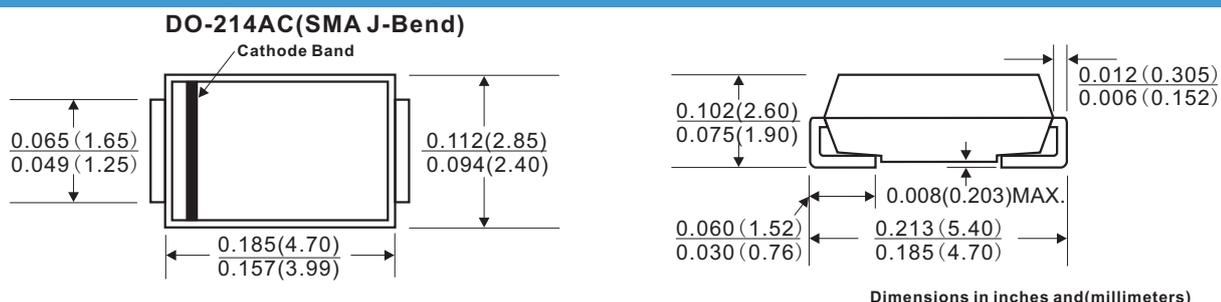
Parameter	Symbol	SM520A	SM540A	SM560A	SM580A	SM5100A	SM5150A	SM5200A	Unit
Marking Code		SS52	SS54	SS56	SS58	SS510	SS515	SS520	
Maximum repetitive peak reverse voltage	V _{RRM}	20	40	60	80	100	150	200	V
Maximum RMS voltage	V _{RMS}	14	28	42	56	70	105	140	V
Maximum DC blocking voltage	V _{DC}	20	40	60	80	100	150	200	V
Maximum average forward rectified current	I _{F(AV)}	5.0							A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	100							A
Thermal resistance from junction ⁽¹⁾	R _{θJL}	29							°C/W
Operating junction and storage temperature range	T _J , T _{STG}	-55 to +150							°C

Note: 1. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted

Electrical Characteristics (T_A=25°C unless otherwise noted)

Parameter	Test Conditions	Symbol	SM520A	SM540A	SM560A	SM580A	SM5100A	SM5150A	SM5200A	Unit
Instantaneous forward voltage	I _F =5.0A	V _F	0.55	0.70	0.85				V	
Reverse current	V _R =V _{DC} T _J = 25 °C	I _R	1.0							mA
			50.0							
Typical junction capacitance	4.0 V, 1MHz	C _J	600	400				pF		

Dimensions (DO-214AC)



Characteristic Curves ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Fig.1 Forward Current Derating Curve

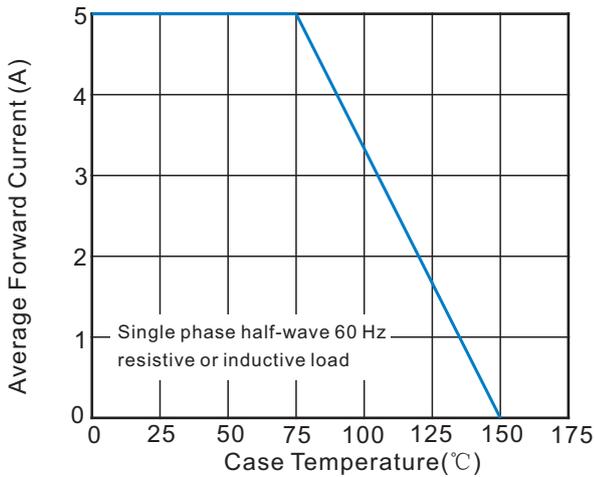


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current

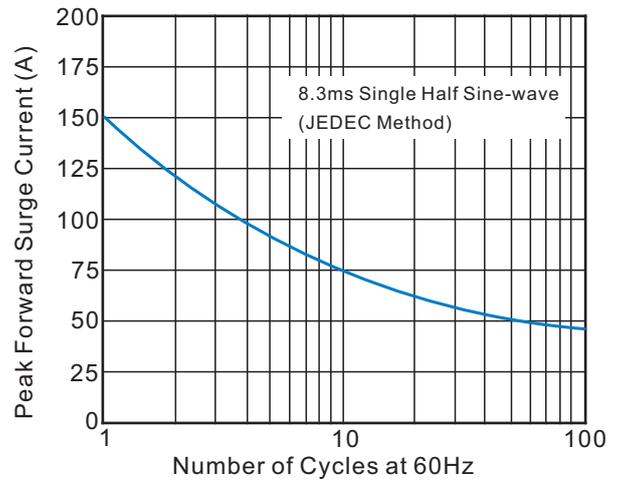


Fig.3 Typical Instantaneous Forward Characteristics

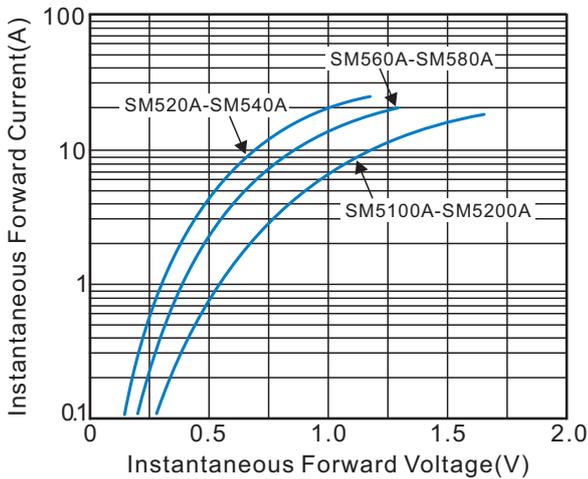


Fig.4 Typical Reverse Characteristics

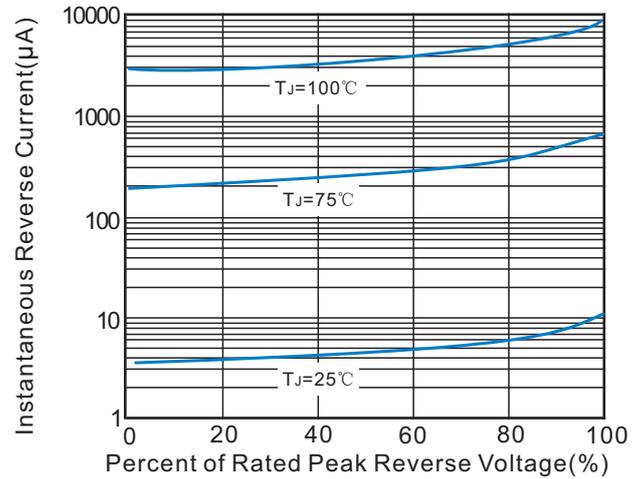


Fig.5 Typical Transient Thermal Impedance

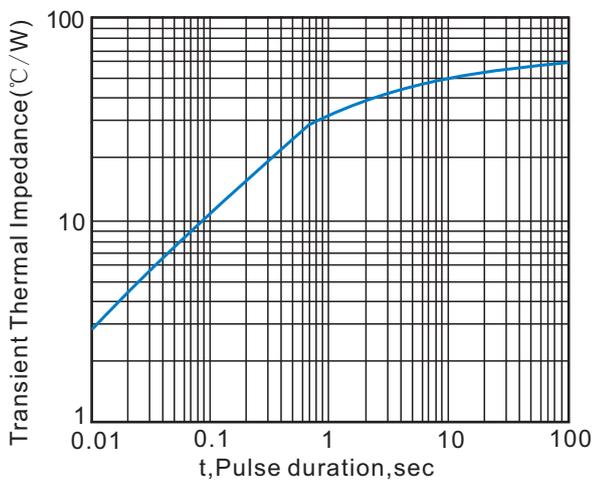


Fig.6 Typical Junction Capacitance

