

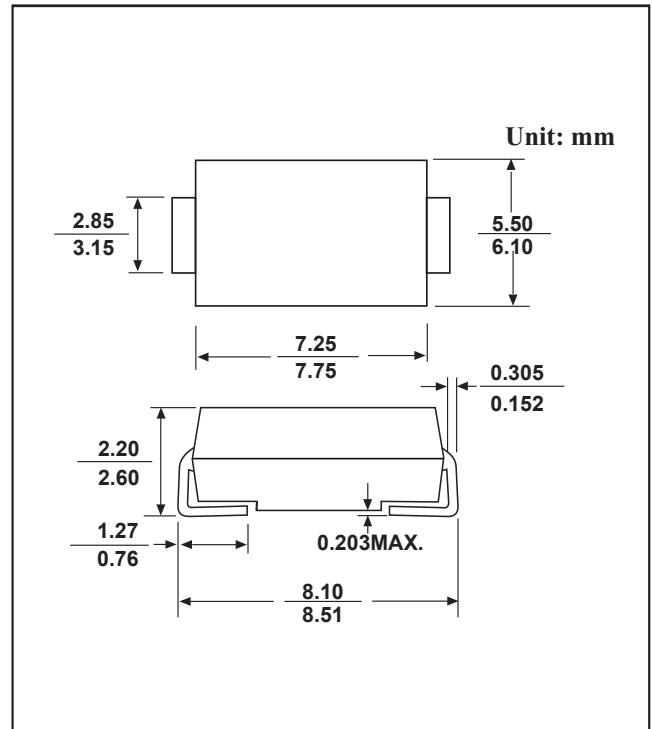
## SMC PLASTIC SILICON RECTIFIERS

### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O Utilizing
- Metal silicon junction ,majority carrier conduction
- Built-in strain relief
- For surface mounted applications
- Low power loss ,high efficiency,High surge capability
- High current capability ,Low forward voltage drop
- For use in low voltage ,high frequency inverters, free wheeling and polarity protection applications
- High temperature soldering guaranteed:260 °C/10 seconds at terminals
- Component in accordance to RoHS 2015/863 and WEEE 2012/19/EU

### MECHANICAL DATA

- Case: SMC molded plastic body
- Terminals:Lead solderable per MIL-STD-750,method 2026
- Polarity:Color band denotes cathode end



### MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbols	SS52	SS54	SS56	SS58	SS510	SS512	SS515	SS520	Units
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	20	40	60	80	100	120	150	200	V
Maximum RMS voltage	$V_{RMS}$	14	28	42	56	70	84	105	140	V
Maximum DC Blocking Voltage	$V_{DC}$	20	40	60	80	100	120	150	200	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	5.0								A
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	$I_{FSM}$	175				150				A
Max Instantaneous Forward Voltage at 5 A	$V_F$	0.55		0.70		0.85				V
Maximum DC Reverse Current $T_a = 25^\circ\text{C}$ at Rated DC Reverse Voltage $T_a = 100^\circ\text{C}$	$I_R$					1.0 50				mA
Typical Junction Capacitance <sup>(1)</sup>	$C_j$	600			400				pF	
Typical Thermal Resistance <sup>(2)</sup>	$R_{\theta JA}$					35				°C/W
Operating Junction Temperature Range	$T_j$					-55 ~ +150				°C
Storage Temperature Range	$T_{stg}$					-55 ~ +150				°C

( 1 ) Measured at 1 MHz and applied reverse voltage of 4 V D.C

( 2 ) P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.

## RATINGS AND CHARACTERISTIC CURVES

Fig.1 Forward Current Derating Curve

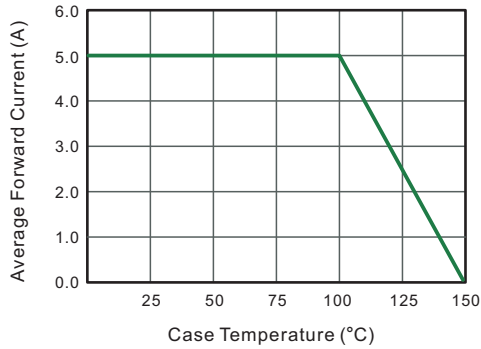


Fig.2 Typical Reverse Characteristics

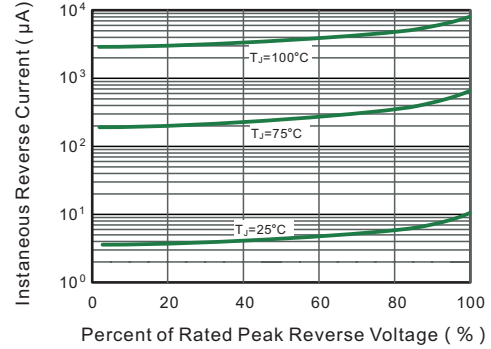


Fig.3 Typical Forward Characteristic

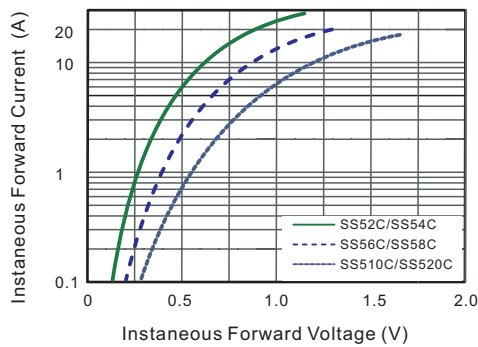


Fig.4 Typical Junction Capacitance

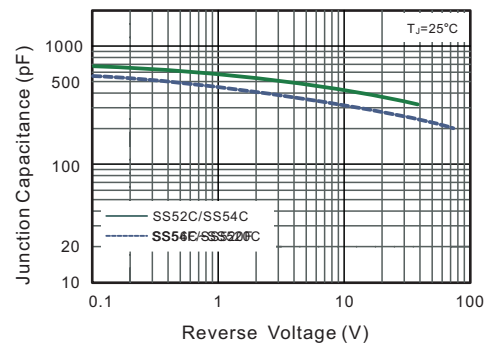


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

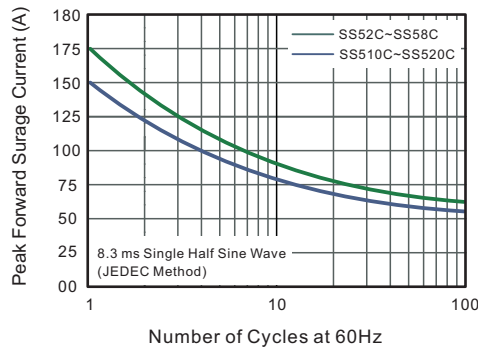


Fig.6 Typical Transient Thermal Impedance

