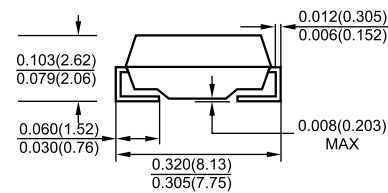
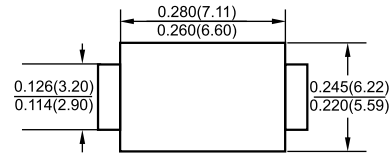




## Features

- ✧ Plastic package has Underwriters Laborator
- ✧ Flammability Classification 94V-0
- ✧ For surface mounted applications
- ✧ Low profile package
- ✧ Built-in strain relief
- ✧ Metal silicon junction, majority carrier conduction
- ✧ High surge capability
- ✧ High current capability, low forward voltage drop
- ✧ Low power loss, high efficiency
- ✧ For use in low voltage high frequency inverters, free wheeling and polarity protection applications
- ✧ Guardring for overvoltage protection
- ✧ High temperature soldering guaranteed: 250°C/10 seconds at terminals

## SMC/DO-214AB



Dimensions in inches and (millimeters)

## Mechanical Data

- ✧ Case: JEDEC SMC, molded plastic over passivated chip
- ✧ Polarity: Color band denotes cathode end
- ✧ Weight: 0.007 ounces, 0.21 gram

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified

		SS52	SS53	SS54	SS55	SS56	SS58	SS59	SS510	SS515	SS520	UNITS
Maximum recurrent peak reverse voltage	$V_{RRM}$	20	30	40	50	60	80	90	100	150	200	V
Maximum RMS voltage	$V_{RWS}$	14	21	28	35	42	56	63	70	105	140	V
Maximum DC blocking voltage	$V_{DC}$	20	30	40	50	60	80	90	100	150	200	V
Maximum average forward rectified current at $T_J$ (SEE FIG.1) (NOTE 2)	$I_{(AV)}$	5.0										A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	175										A
Maximum instantaneous forward voltage at 5.0A (NOTE 1)	$V_F$	0.45	0.55		0.70		0.85					V
Maximum DC reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage (NOTE 1) @ $T_A=100^\circ\text{C}$	$I_R$	0.5					10					mA
Typical thermal resistance (NOTE 2)	$R_{JA}$	55										°C/W
	$R_{JL}$	17										
Operating junction temperature range	$T_J$	-55--- +150					-55--- +175					°C
Storage temperature range	$T_{STG}$	-55--- +150					-55--- +175					°C

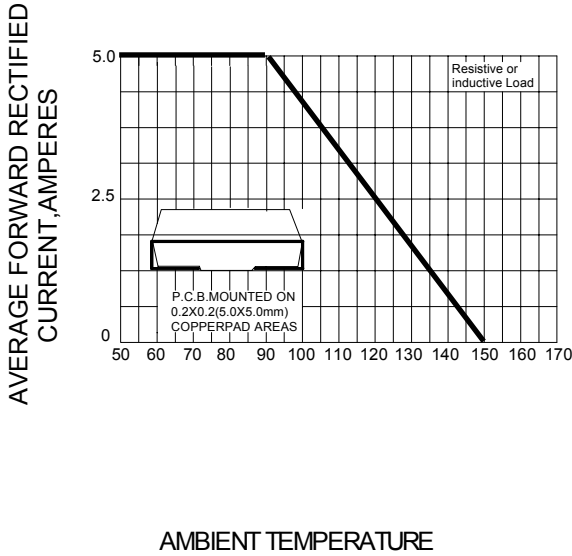
NOTE: 1. Pulse test: 300  $\mu\text{s}$  pulse width, 1% duty cycle

2. P.C.B. mounted with 0.55"X0.55" (14.0X14.0mm<sup>2</sup>) copper pad areas

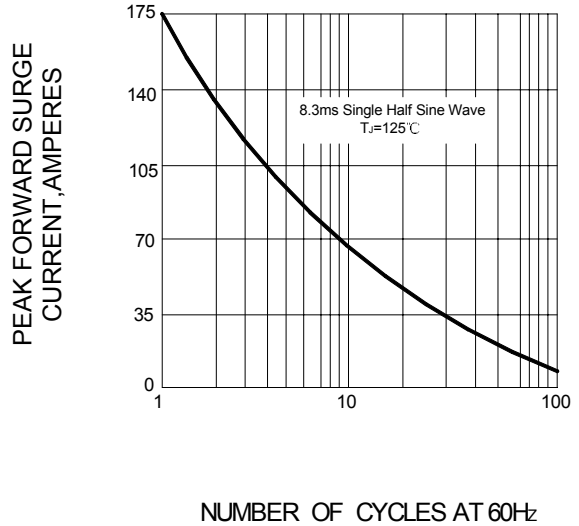


### Ratings AND Characteristic Curves

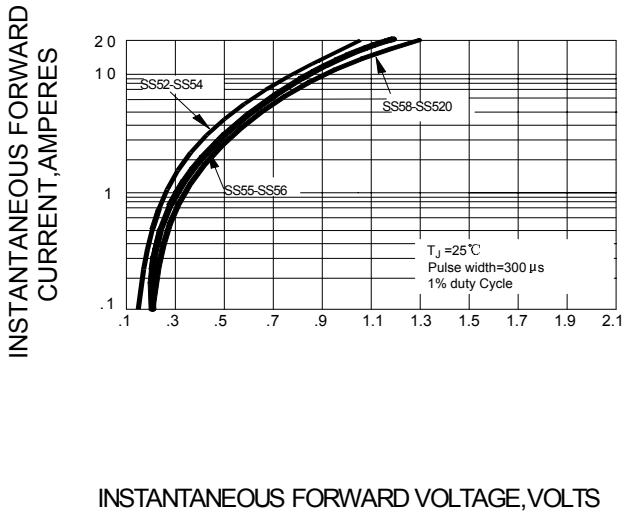
**FIG.1 – FORWARD DERATING CURVE**



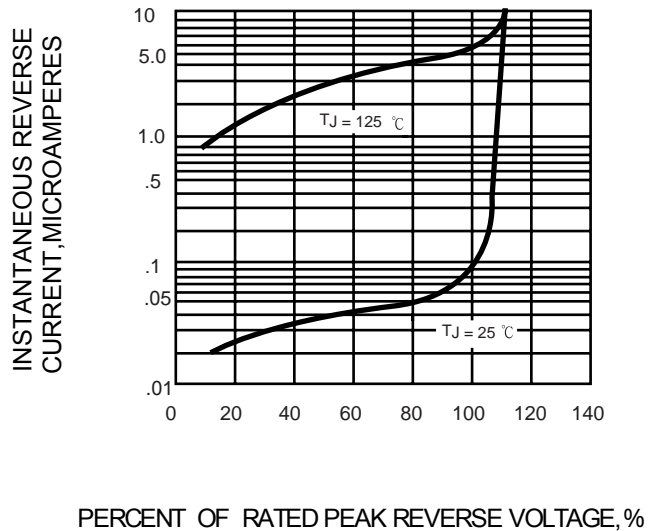
**FIG.2– PEAK FORWARD SURGE CURRENT**



**FIG.3 – TYPICAL FORWARD CHARACTERISTICS**



**FIG.4 – TYPICAL REVERSE CHARACTERISTICS**



PACKAGE	SPQ/PCS	CARTON SPQ/PCS	CARTON SIZE/CM	CARTON GW/KG	CARTON NW/KG
SMC	3000/REEL	42000	36X36X36.5	18.50	15.50