

### Features

- Low profile package
- Ideal for automated placement
- Ultrafast reverse recovery time
- Low power losses, high efficiency
- Low forward voltage drop
- High surge capability
- High temperature soldering:  
260°C/10 seconds at terminals
- Component in accordance to  
RoHS 2002/95/1 and WEEE 2002/96/EC



SMC (DO-214AB)

### Mechanical Data

- **Case:** JEDEC DO-214AB molded plastic
- **Terminals:** Solder plated, solderable per  
J-STD-002B and JESD22-B102D
- **Polarity:** Laser band denotes cathode end

### Major Ratings and Characteristics

$I_{F(AV)}$	5.0A
$V_{RRM}$	20 V to 200 V
$I_{FSM}$	150A
$V_F$	0.50V, 0.55V, 0.70V, 0.85V, 0.95V
$T_j \text{ max.}$	125 °C

### Maximum Ratings & Thermal Characteristics

( $T_A = 25\text{ °C}$  unless otherwise noted)

Items	Symbol	SK52C	SK53C	SK54C	SK55C	SK56C	SK58C	SK510C	SK515C	SK520C	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	20	30	40	50	60	80	100	150	200	V
Maximum RMS voltage	$V_{RMS}$	14	21	28	35	42	56	70	105	140	V
Maximum DC blocking voltage	$V_{DC}$	20	30	40	50	60	80	100	150	200	V
Maximum average forward rectified current	$I_{F(AV)}$	5									A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	$I_{FSM}$	150									A
Voltage rate of change (rated $V_R$ )	dv/dt	10000									V/ $\mu$ s
Thermal resistance from junction to lead <sup>(1)</sup>	$R_{\theta JL}$	20									°C/W
Operating junction and storage temperature range	$T_J, T_{STG}$	-65 to +125									°C

Note 1: Mounted on P.C.B. with 0.55 × 0.55" ( 14 × 14 mm ) copper pad areas.

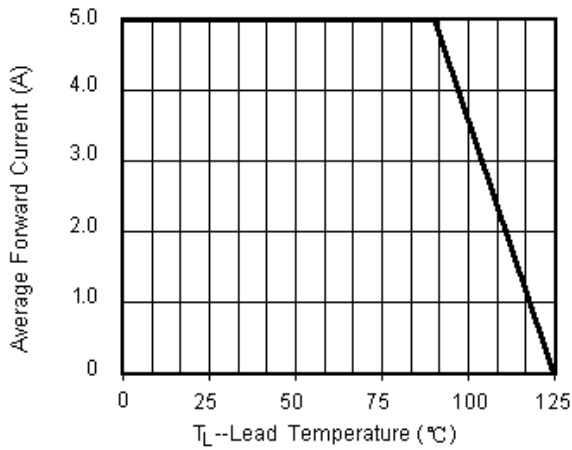
### Electrical Characteristics ( $T_A = 25\text{ °C}$ unless otherwise noted)

Items	Test conditions	Symbol	SK52C	SK53-54C	SK55-56C	SK58-510C	SK515-520C	UNIT	
Instantaneous forward voltage	$I_F=5.0A^{(2)}$	$V_F$	0.50	0.55	0.70	0.85	0.95	V	
Reverse current	$V_R=V_{DC}$	$I_R$	$T_J=25\text{ °C}$				0.5		mA
			$T_J=100\text{ °C}$				10.0		

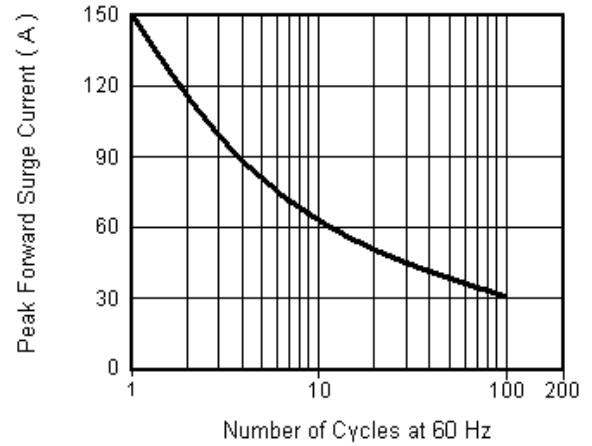
Note 2: Pulse test: 300 $\mu$ s pulse width, 1% duty cycle.

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

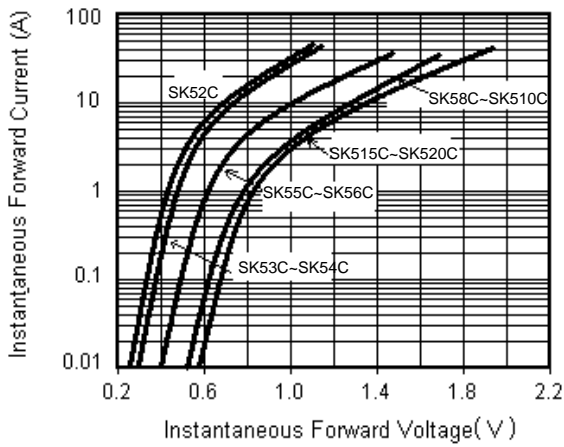
**Fig.1 Forward Current Derating Curve**



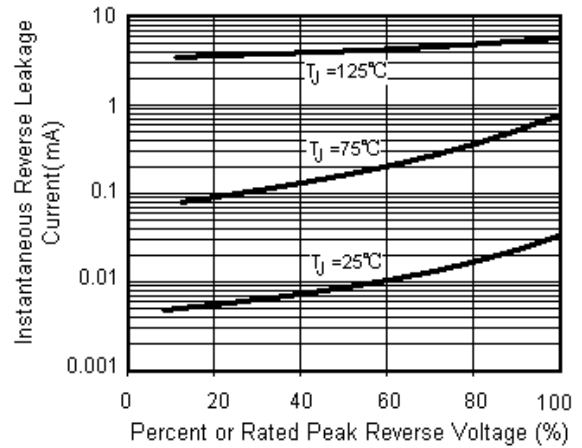
**Fig.2 Maximum Non-Repetitive Peak Forward Surge Current**



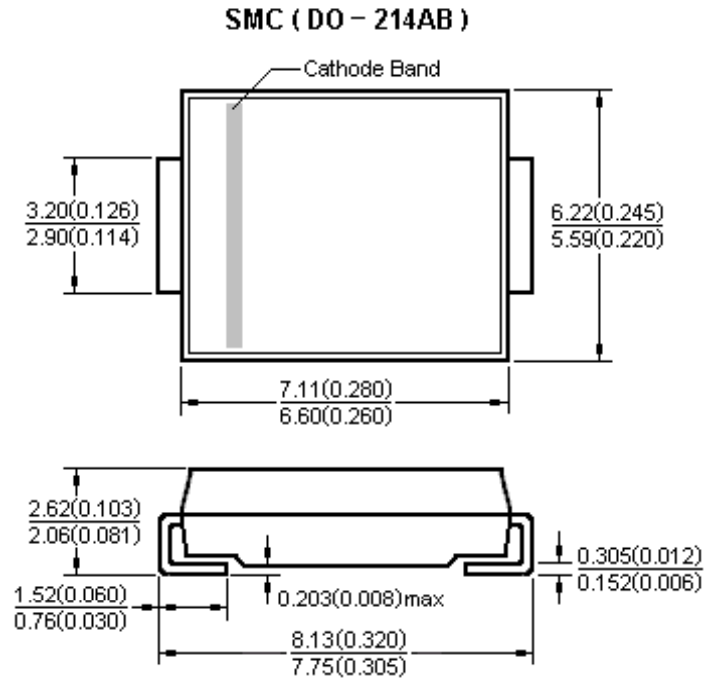
**Fig.3 Typical Instantaneous Forward Characteristics**



**Fig.4 Typical Reverse Leakage Characteristics**



## Package Outline



Dimensions in millimeters and (inches)