

### Features

- Low profile package
- Ideal for automated placement
- 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



SMA (DO-214AC)

### Mechanical Data

- **Case:** JEDEC DO-214AC molded plastic
- **Terminals:** Solder plated, solderable per  
JESD22-B102D
- **Polarity:** Laser band denotes cathode end

### Major Ratings and Characteristics

$I_{F(AV)}$	1.0A
$V_{RRM}$	20 V to 200 V
$I_{FSM}$	40A
$V_F$	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	SS12	SS13	SS14	SS15	SS16	SS18	SS110	SS115	SS120	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	$I_{F(AV)}$	1									A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	$I_{FSM}$	40									A
Voltage rate of change (rated $V_R$ )	dv/dt	10000									V/μs
Thermal resistance from junction to lead <sup>(1)</sup>	$R_{θJL}$	35									°C/W
Operating junction and storage temperature range	$T_J, T_{STG}$	-65 to +125									°C

Note 1: Mounted on P.C.B. with 0.2 x 0.2" (5.0 x 5.0mm) copper pad areas.

### Electrical Characteristics

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

Items	Test conditions		Symbol	SS12	SS13~24	SS15~26	SS18~210	SS115~220	UNIT
Instantaneous forward voltage	$I_F=1.0A^{(2)}$		$V_F$	0.50	0.55	0.70	0.85	0.95	V
Reverse current	$V_R=V_{DC}$	$T_j=25^{\circ}C$	$I_R$	0.5					mA
		$T_j=100^{\circ}C$		5.0					

Note 2: Pulse test:300μs pulse width,1% duty cycle.

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

Fig.1 Forward Current Derating Curve

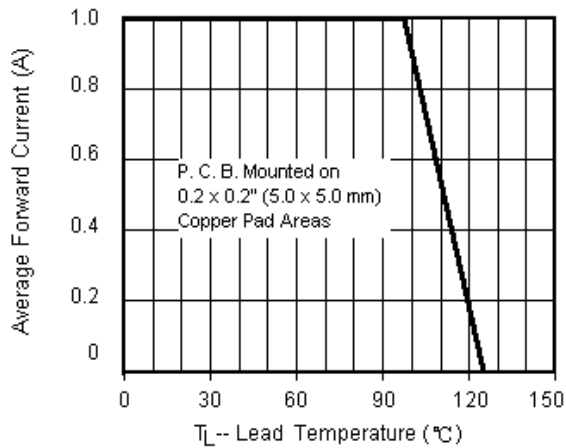


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current

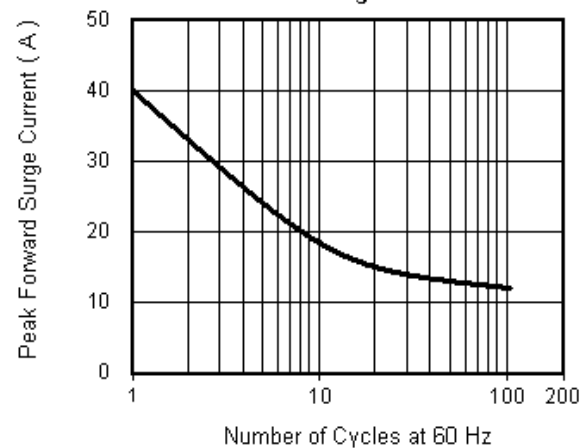


Fig.3 Typical Instantaneous Forward Characteristics

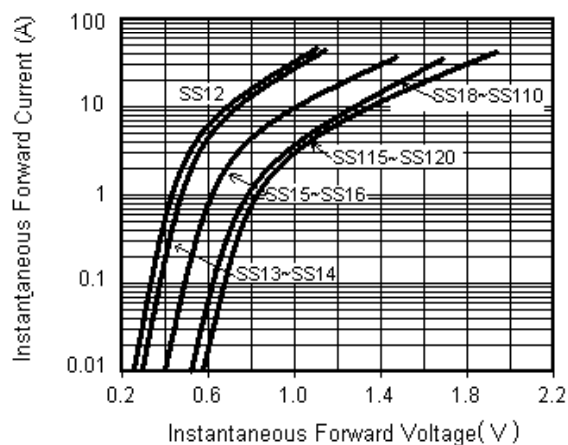
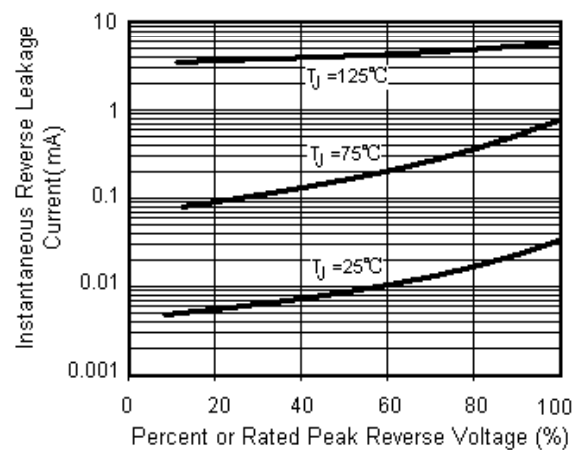
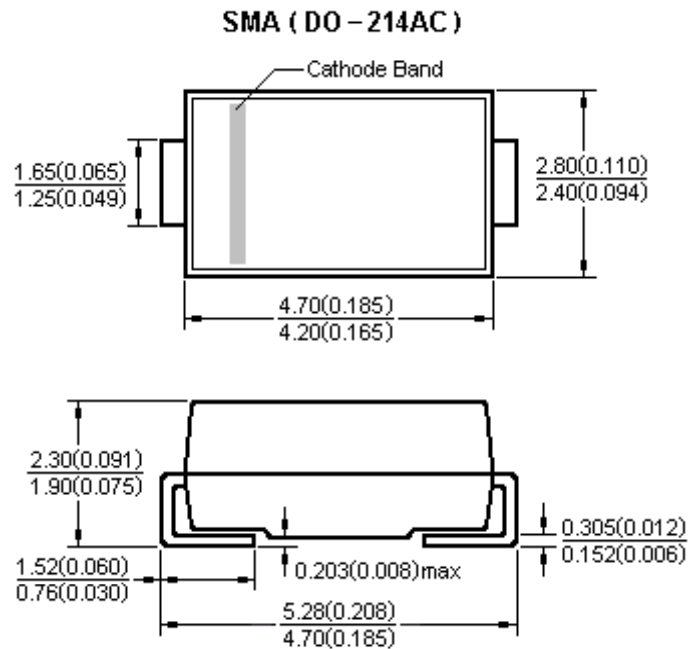


Fig.4 Typical Reverse Leakage Characteristics



### Package Outline



Dimensions in millimeters and (inches)

### Notice

- Product is intended for use in general electronics applications.
- Product should be worked less than the ratings; if exceeded, may cause permanent damage or introduce latent failure mechanisms.
- The absolute maximum ratings are rated values and must not be exceeded during operation. The following are the general derating methods you design a circuit with a device.

$I_{F(AV)}$  : We recommend that the worst case current be no greater than 80% .

$T_J$  : Derate this rating when using a device in order to ensure high reliability. We recommend that the device be used at a  $T_J$  of below 100°C.

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