

### Features

- Low profile package
- 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



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 60 V
$I_{FSM}$	40A
$V_F$	0.40V, 0.48V, 0.65V
$T_J \text{ max.}$	125 °C

### Maximum Ratings & Thermal Characteristics

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

Items	Symbol	SL12	SL13	SL14	SL16	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	20	30	40	60	V
Maximum RMS voltage	$V_{RMS}$	14	21	28	42	V
Maximum DC blocking voltage	$V_{DC}$	20	30	40	60	V
Maximum average forward rectified current	$I_{F(AV)}$	1.0				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/ $\mu$ s
Thermal resistance from junction to lead <sup>(1)</sup>	$R_{\theta JL}$	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

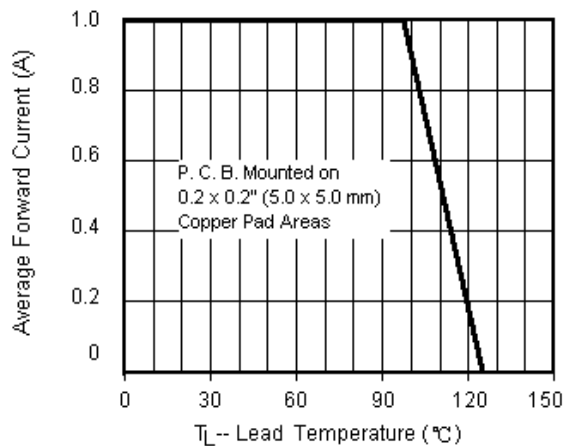
( $T_A = 25\text{ °C}$  unless otherwise noted)

Items	Test conditions		Symbol	SL12	SL13~14	SL16	UNIT
Instantaneous forward voltage	I <sub>F</sub> =1.0A <sup>(2)</sup>		V <sub>F</sub>	0.40	0.48	0.65	V
Reverse current	V <sub>R</sub> =V <sub>DC</sub>	T <sub>J</sub> =25℃	I <sub>R</sub>	1.0			mA
		T <sub>J</sub> =100℃		10.0			

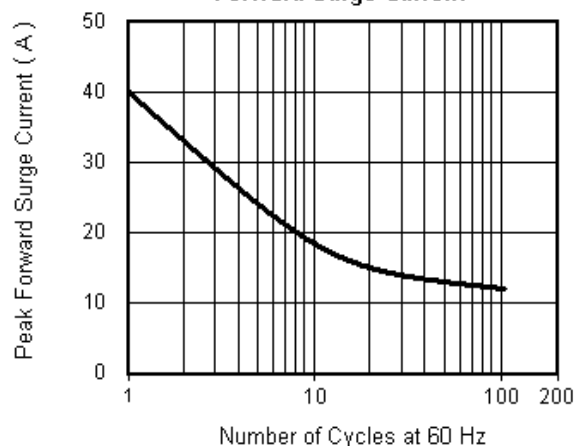
Note 2: Pulse test: 300 $\mu$ s pulse width, 1% duty cycle.

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

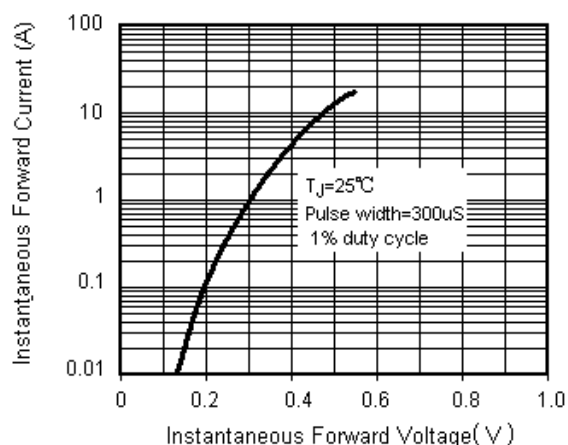
**Fig.1 Forward Current Derating Curve**



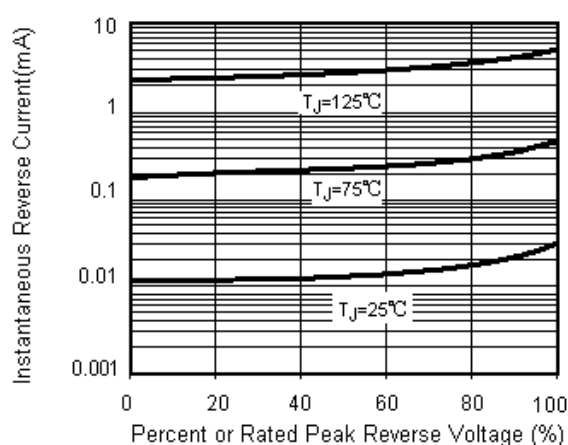
**Fig.2 Maximum Non-Repetitive Peak Forward Surge Current**

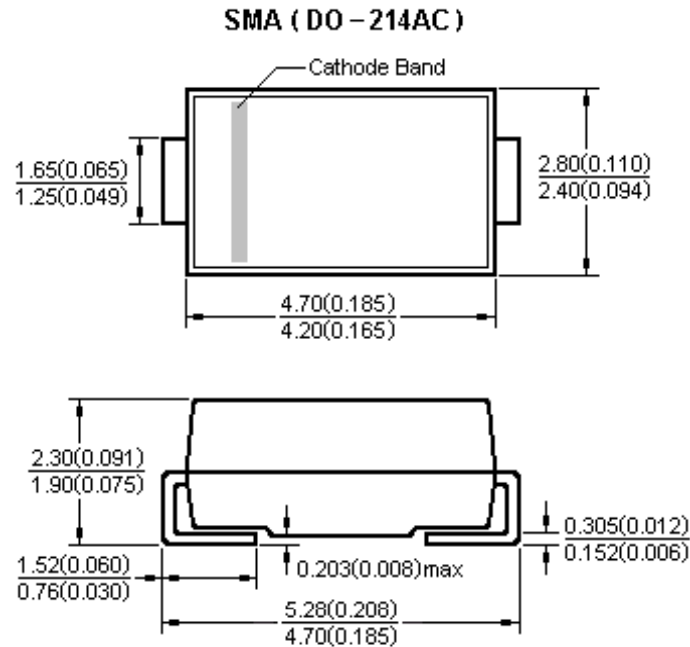


**Fig.3 Typical Instantaneous Forward Characteristics**



**Fig.4 Typical Reverse Leakage Characteristics**



**Package Outline**

Dimensions in millimeters and (inches)

**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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