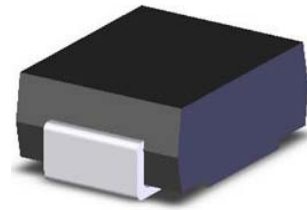


**Features**

- Low profile space
- Ideal for automated placement
- Glass passivated chip junctions
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- High temperature soldering:  
260°C/10 seconds at terminals
- Component in accordance to  
RoHS 2002/95/1 and WEEE 2002/96/EC

**Mechanical Data**

- Case: JEDEC DO-214AA molded plastic body over glass passivated chip
- Terminals: Solder plated, solderable per J-STD-002B and JESD22-B102D
- Polarity: Laser band denotes cathode end



SMB (DO-214AA)

**Major Ratings and Characteristics**

$I_{F(AV)}$	2.0 A
$V_{RRM}$	50V to 1000V
$I_{FSM}$	50 A
$I_R$	5 $\mu$ A
$V_F$	1.1 V
$T_j$ (max.)	150 °C

■ **Maximum Ratings & Thermal Characteristics** ( $T_A=25^\circ\text{C}$ , unless otherwise noted)

Items	Symbol	S2A	S2B	S2D	S2G	S2J	S2K	S2M	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	
Maximum average forward rectified current	$I_{F(AV)}$	2.0							A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	$I_{FSM}$	50							
Thermal resistance from junction to ambient <sup>(1)</sup>	$R_{\theta JA}$	25							°C/W
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +150							°C

Note 1: Mounted on P.C.B. with 0.28 × 0.28" (7.0 × 7.0mm) copper pad areas.

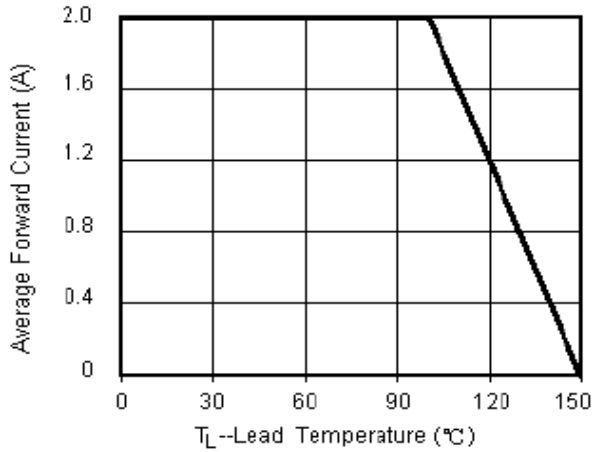
■ **Electrical Characteristics** ( $T_A=25^\circ\text{C}$ , unless otherwise noted)

Items	Test conditions	Symbol	Min.	Typ.	Max.	UNIT
Instantaneous forward $I_t$	$I_F=2.0A$ <sup>(2)</sup>	$V_F$	--	0.98	1.10	V
Reverse current	$V_R=V_{DC}$	$I_R$	--		5	$\mu$ A
					$T_A=125^\circ\text{C}$	
Typical junction capacitance	4.0V, 1MHz	$C_J$	--	30.0	--	pF

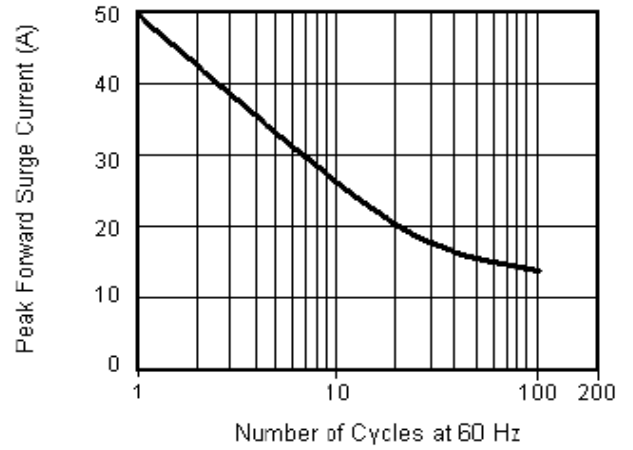
Note 2: Pulse test: 300 $\mu$ s pulse width, 1% duty cycle.

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

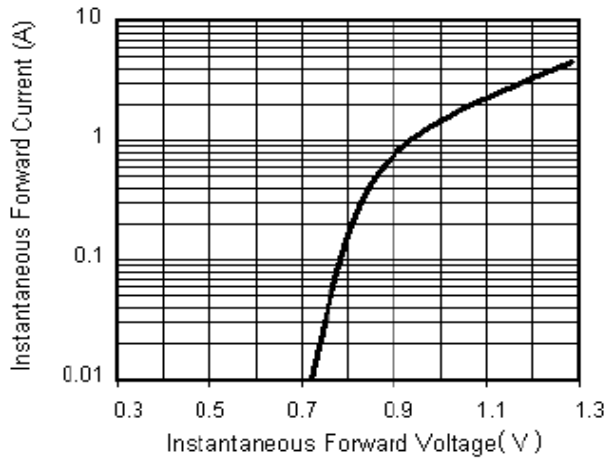
**Fig.1 Forward Current Derating Curve**



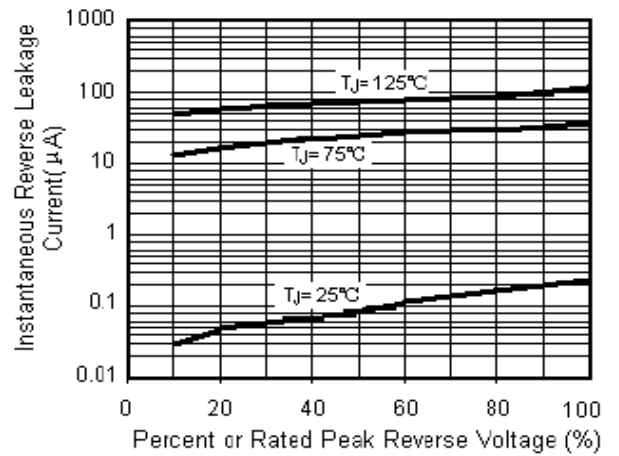
**Fig.2 Maximum Non-Repetitive Peak Forward Surge Current**



**Fig.3 Typical Instantaneous Forward Characteristics**

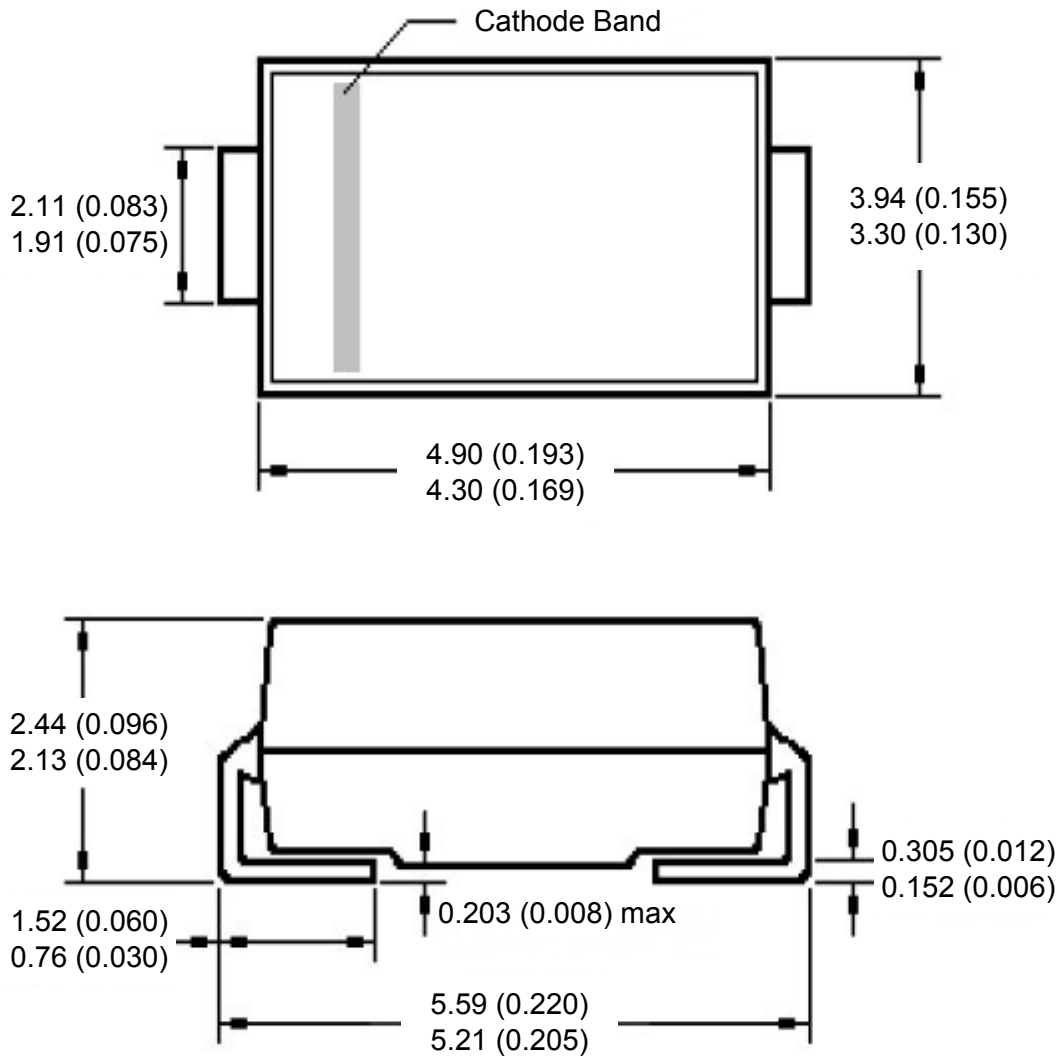


**Fig.4 Typical Reverse Leakage Characteristics**



## Package Outline

### SMB DO-214AA



Dimensions in millimeters and (inches)

**Notice**

- Product is intended for use in general electronics applications, especially applicable to energy conservation electronic ballast of fluorescent lamp.
- 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%.
  - $I_{FSM}$ : This rating specifies the non-repetitive peak current. This is only applied for an abnormal operation, which the general during the lifespan of the device.
  - $T_J$ : 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 125 °C.



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