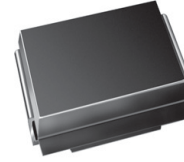


#### Features

- Glass passivated chip junctions
- Ideal for automated placement
- Ultrafast reverse recovery time for high efficiency
- Low profile package
- High forward surge capability
- High temperature soldering: 260°C/10 seconds at terminals



DO-214AA (SMB)



#### Mechanical Data

- **Case:** JEDEC DO-214AA molded plastic body over glass passivated chip
- **Terminals:** Solder plated, solderable per JESD22-B102
- **Polarity:** Laser band denotes cathode end

#### Major Ratings and Characteristics

$I_{F(AV)}$	1.0 A
$V_{RRM}$	50 V to 600 V
$I_{FSM}$	30 A
$t_{rr}$	35 nS
$V_F$	0.95 V, 1.25 V, 1.7 V
$T_j \text{ max.}$	150 °C

#### Maximum Ratings & Thermal Characteristics

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

Items	Symbol	BSF1A	BSF1B	BSF1C	BSF1D	BSF1E	BSF1G	BSF1J	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	150	200	300	400	600	V
Maximum RMS voltage	$V_{RMS}$	35	70	105	140	210	280	420	V
Maximum DC blocking voltage	$V_{DC}$	50	100	150	200	300	400	600	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	$I_{FSM}$	30							A
Thermal resistance from junction to lead <sup>(1)</sup>	$R_{\theta JL}$	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 x 0.28" (7.0 x 7.0mm) copper pad areas.

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

Items	Test conditions		Symbol	BSF1A~C	BSF1D~E	BSF1G~J	UNIT
Maximum Instantaneous forward voltage	$I_F=1A^{(2)}$		$V_F$	0.95	1.25	1.70	V
Maximum reverse current	$V_R=V_{DC}$	$T_A=25^{\circ}C$	$I_R$	5			$\mu A$
		$T_A=100^{\circ}C$		50			
Reverse recovery time	$I_F=0.5A$ $I_R=1A$ $I_{rr}=0.25A$		$t_{rr}$	35			nS
Typical junction capacitance	4.0 V ,1MHz		$C_J$	15			pF

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

### Characteristic Curves (T<sub>A</sub>=25 °C unless otherwise noted)

Fig.1 Forward Current Derating Curve

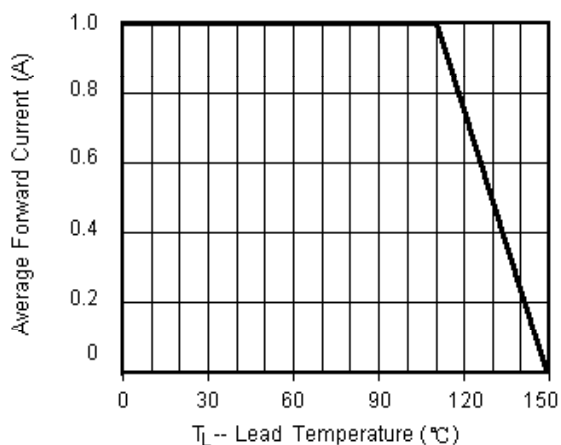


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current

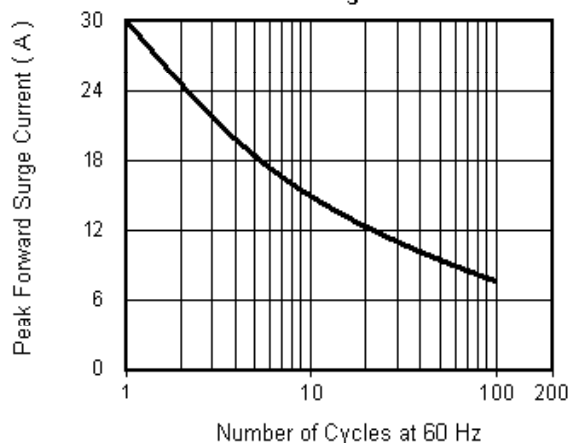


Fig.3 Typical Instantaneous Forward Characteristics

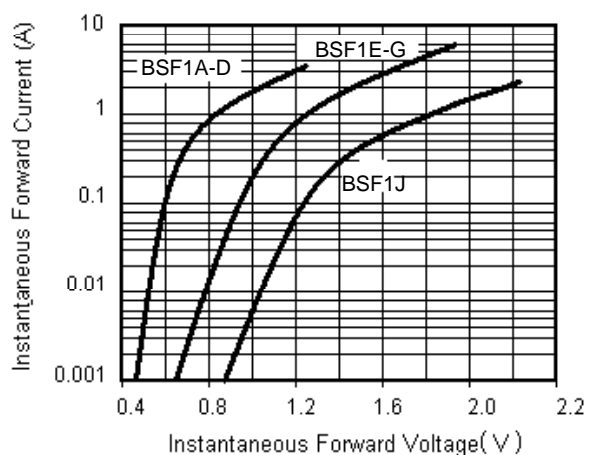
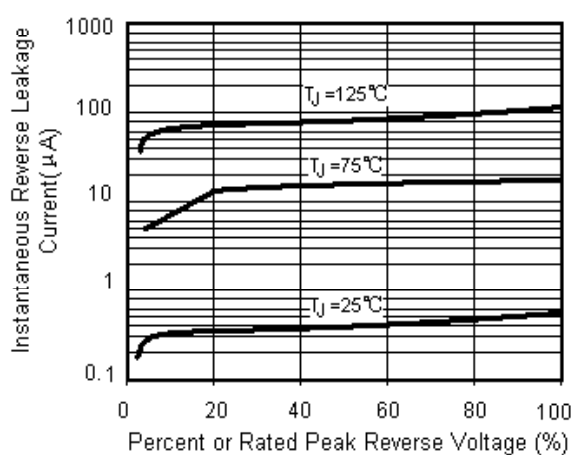
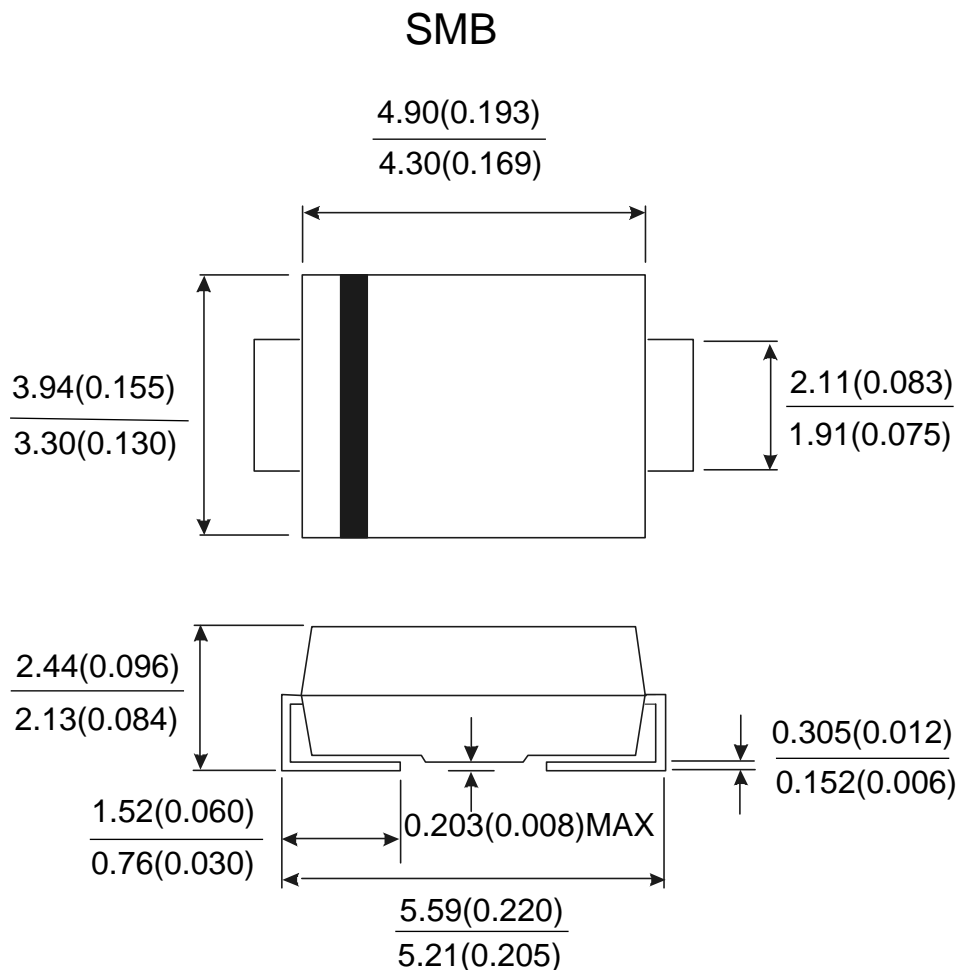


Fig.4 Typical Reverse Leakage Characteristics



#### Package Outline



#### 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 125°C.

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