

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



SMB (DO – 214AA)

Mechanical Data

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

Major Ratings and Characteristics

$I_{F(AV)}$	5.0A
V_{RRM}	20 V to 60 V
I_{FSM}	150A
V_F	0.40V, 0.65V
$T_J \text{ max.}$	125 °C

Maximum Ratings & Thermal Characteristics

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

Items	Symbol	SL52	SL53	SL54	SL56	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	$I_{F(AV)}$	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/ μ s
Thermal resistance from junction to lead ⁽¹⁾	$R_{\theta JL}$	25				°C/W
Operating junction and storage temperature range	T_J, T_{STG}	-65 to +125				°C

Note 1: Mounted on P.C.B. with 0.28 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	SL52~54	SL56	UNIT
Instantaneous forward voltage	$I_F=5.0A^{(2)}$		V_F	0.40	0.65	V
Reverse current	$V_R=V_{DC}$	$T_A=25^{\circ}C$	I_R	1.0		mA
		$T_A=100^{\circ}C$		20		

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

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

Fig.1 Forward Current Derating Curve

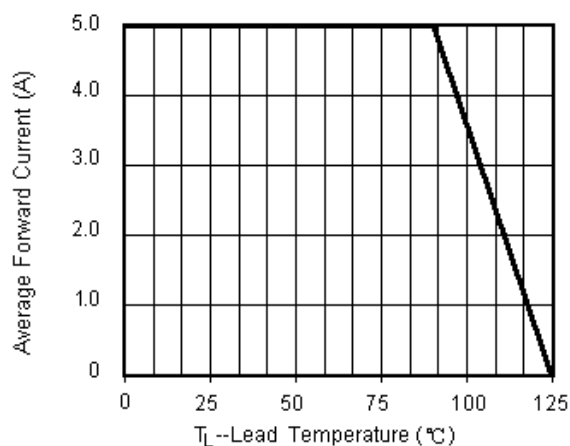


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current

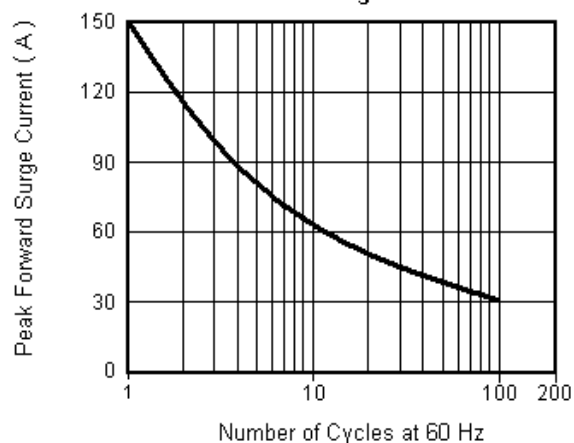


Fig.3 Typical Instantaneous Forward Characteristics

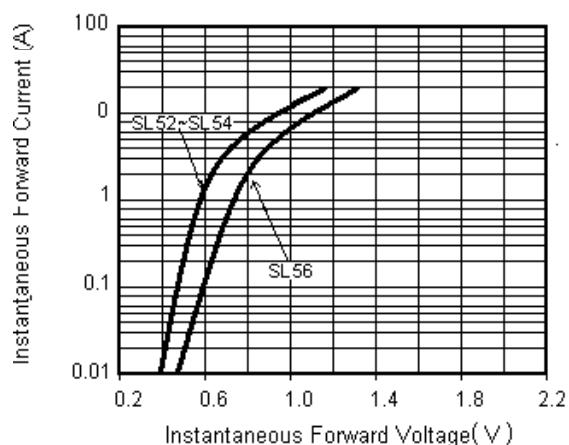
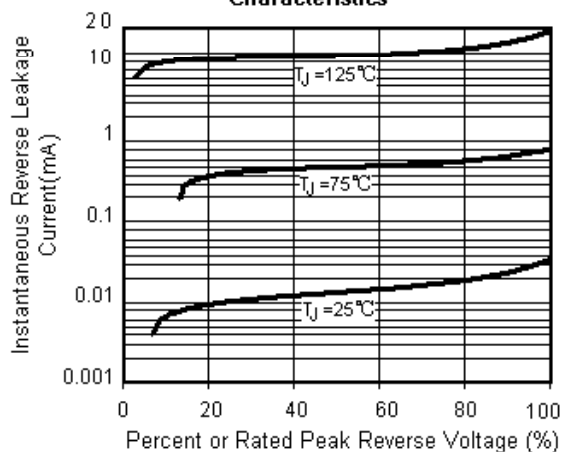
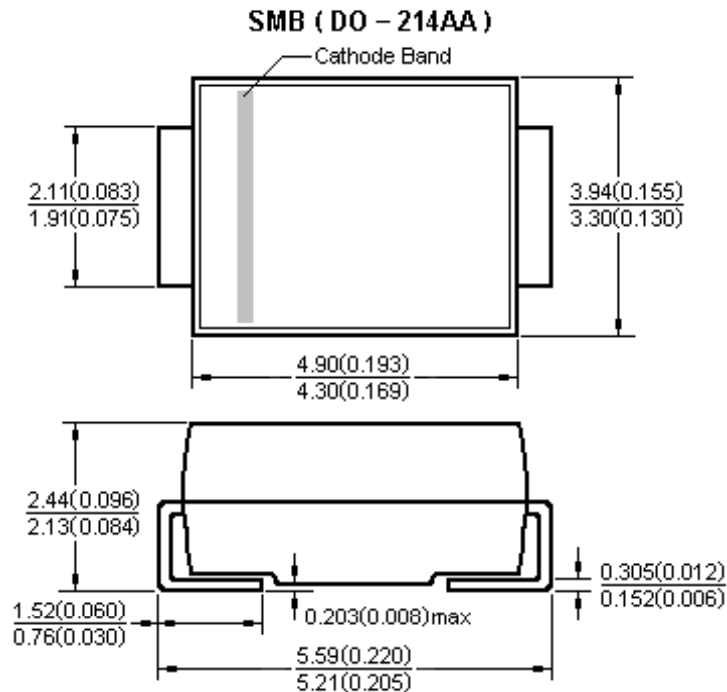


Fig.4 Typical Reverse Leakage Characteristics



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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