

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



SMC (DO - 214AB)

Mechanical Data

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

Major Ratings and Characteristics

$I_{F(AV)}$	5.0 A
V_{RRM}	50 V to 1000 V
I_{FSM}	100 A
I_R	5 μ A
V_F	1.1 V
$T_J \text{ max.}$	150 °C

Maximum Ratings & Thermal Characteristics

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

Items	Symbol	S5A	S5B	S5D	S5G	S5J	S5K	S5M	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	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	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}	100							A
Thermal resistance from junction to lead ⁽¹⁾	$R_{\theta JL}$	20							°C/W
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150							°C

Note 1: Mounted on P.C.B. with 0.32 x 0.32" (8.0 x 8.0mm) copper pad areas.

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

Items	Test conditions	Symbol	Min	Type	Max	UNIT
Instantaneous forward voltage	$I_F=5A^{(2)}$	V_F	-	0.98	1.10	V
Reverse current	$V_R=V_{DC}$ $T_J=25\text{ }^\circ\text{C}$ $T_J=125\text{ }^\circ\text{C}$	I_R	-	-	5 50	μ A
Typical junction capacitance	4.0 V , 1MHz	C_J	-	60.0	-	pF

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

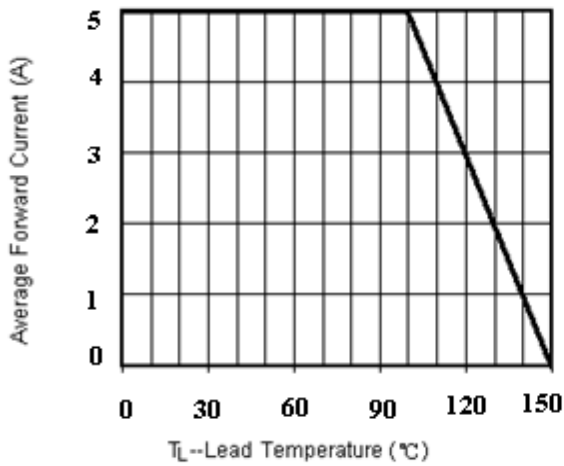


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current

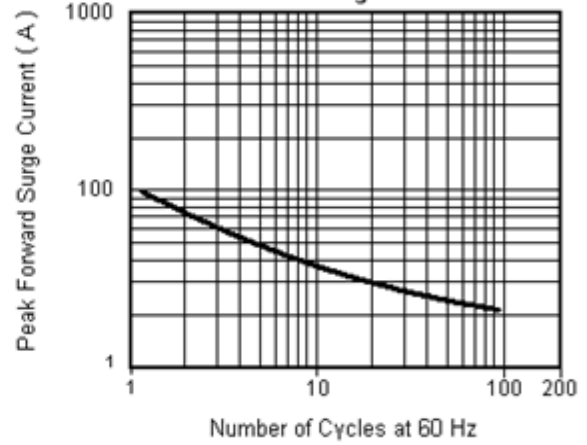


Fig.3 Typical Instantaneous Forward Characteristics

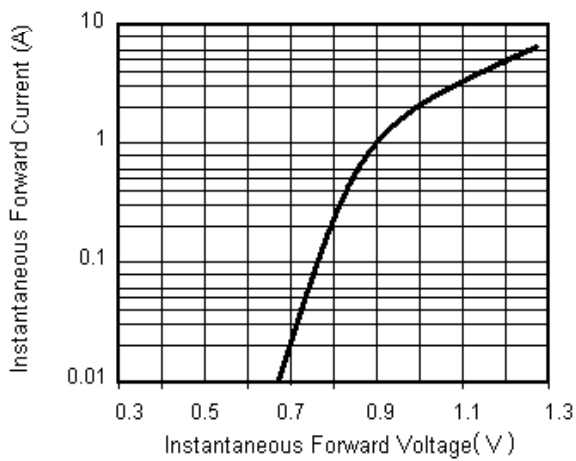
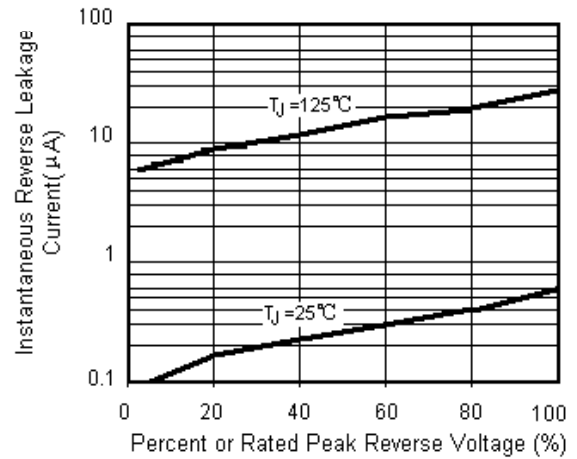
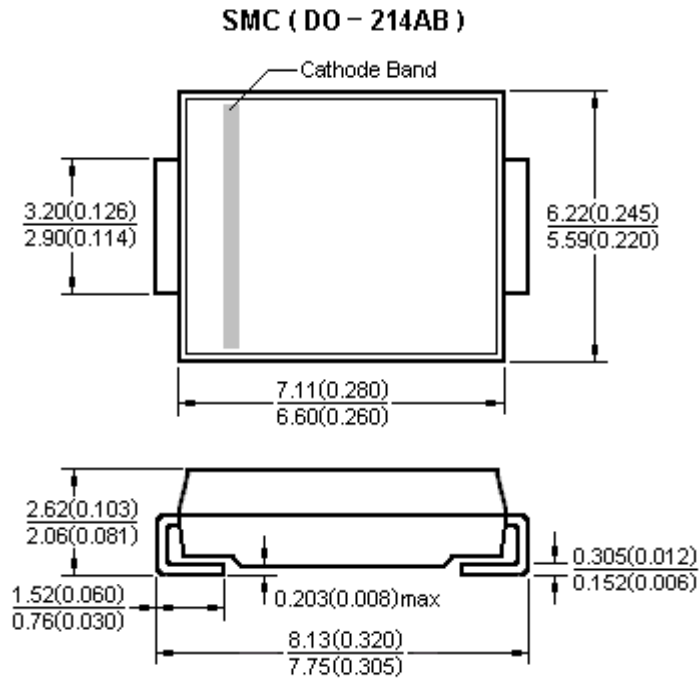


Fig.4 Typical Reverse Leakage Characteristics



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 125°C.

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