

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
- AEC-Q101 qualified



SMA (DO-214AC)



RoHS
COMPLIA
HALOGE
FREE
Available

Mechanical Data

- **Case:** JEDEC DO-214AC 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 1000 V
I_{FSM}	30 A
I_R	5 μ A
V_F	1.1 V
$T_j \text{ max.}$	150 °C

M

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

Items	Symbol	S-M1	S-M2	S-M3	S-M4	S-M5	S-M6	S-M7	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	$I_{F(AV)}$	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 ⁽¹⁾	$R_{\theta JL}$	35							°C/W
Thermal resistance from junction to ambient ⁽¹⁾	$R_{\theta JA}$	107							°C/W
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150							°C

Note 1: Mounted on P.C.B. with 0.2 x 0.2" (5.0 x 5.0mm) copper pad areas.

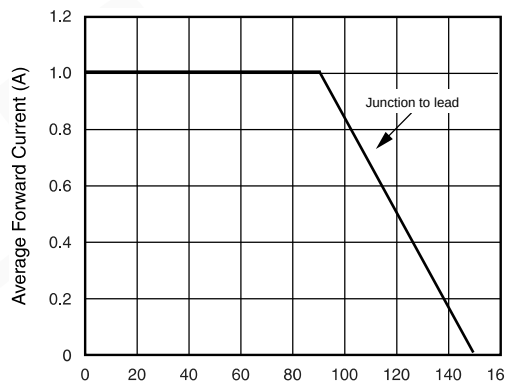
Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Items	Test conditions	Symbol	Min	Type	Max	UNIT
Instantaneous forward voltage	$I_F = 1 \text{ A}^{(2)}$	V_F	-	0.98	1.10	V
Reverse current	$V_R = V_{DC}$ $T_J = 25^\circ\text{C}$ $T_J = 125^\circ\text{C}$	I_R	-	-	5 50	μ A
Typical junction capacitance	4.0 V, 1MHz	C_J	-	15.0	-	pF

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

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

Fig. 1 - Forward Current Derating Curve



g. 2 - Maximum Non-Repetitive Peak Forward Surge Current

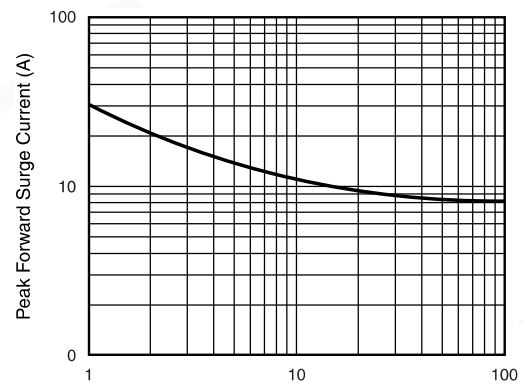


Fig. 3 - Typical Instantaneous Forward Characteristics

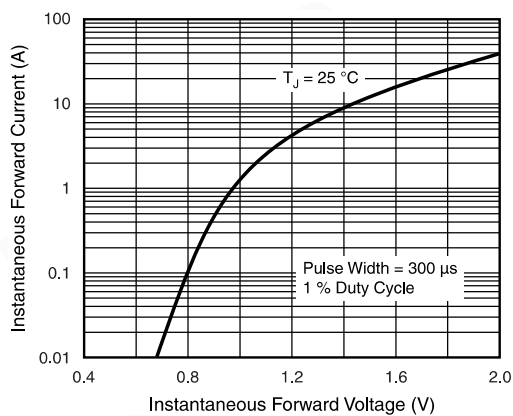
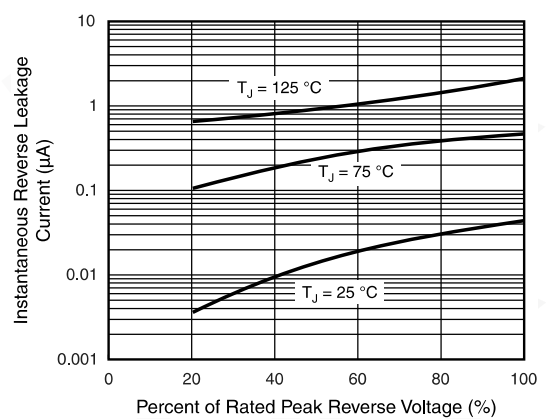
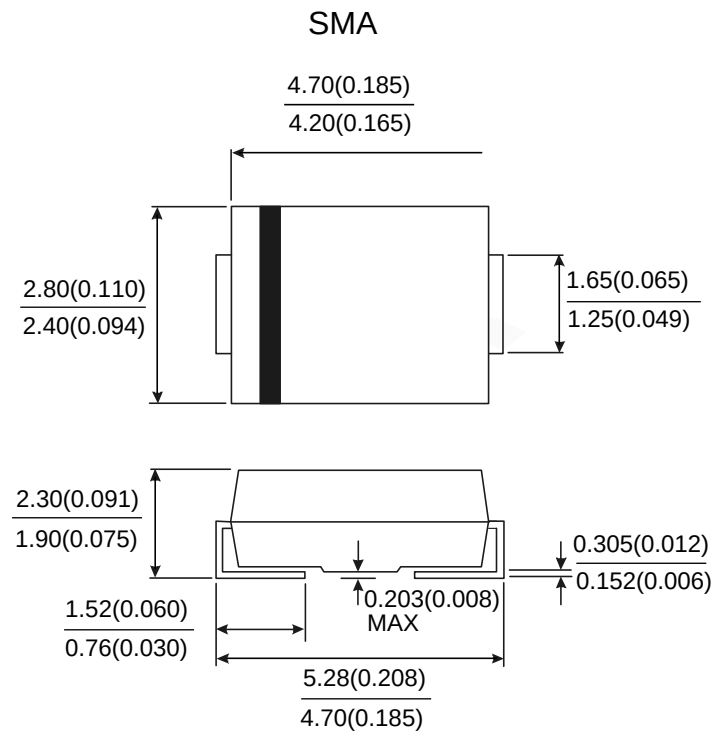


Fig. 4 - Typical Reverse Leakage Characteristics



Package Outline



Notice

- 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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