

**Features**

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Low reverse leakage
- Built-in strain relief, ideal for automated placement
- High forward surge current capability
- High temperature soldering: 250°C/10 seconds at terminals



SMA (DO-214AC)

**Mechanical Data**

- **Case:** JEDEC DO-214AC molded plastic body.
- **Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026
- **Polarity:** Color band denotes cathode end
- **Mounting Position:** Any
- **Weight:** 0.002 ounce, 0.07 grams

**Major Ratings and Characteristics**

$I_{F(AV)}$	1.0 A
$V_{RRM}$	50 V to 1000 V
$I_{FSM}$	20 A
$V_F$	1.1 V
$T_j \text{ max.}$	125 °C

**Maximum Ratings & Thermal Characteristics**

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

(Single phase half-wave 60HZ, resistive or induction load, for capacitive load current derate by 20%.)

Items	Symbol	M1 S1A	M2 S1B	M3 S1D	M4 S1G	M5 S1J	M6 S1K	M7 S1M	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 at $T_L=110\text{ °C}$	$I_{F(AV)}$	1.0							A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	20							A
Typical thermal resistance <sup>(1)</sup>	$R_{\theta JA}$	75							°C/W
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +125							°C

Note 1: P.C.B. mounted with 0.2x0.2"(5.0x5.0mm) copper pad areas

**Electrical Characteristics**

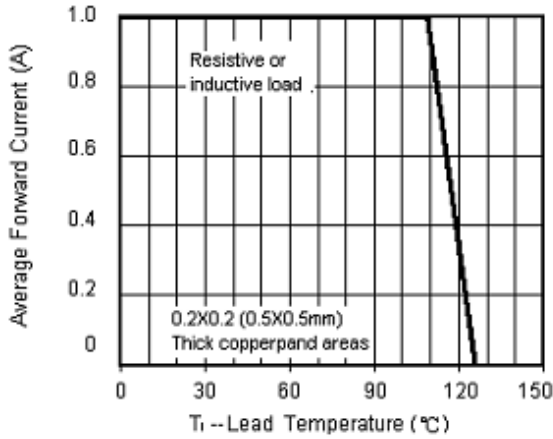
( $T_A = 25\text{ °C}$  unless otherwise noted)

Items	Test conditions	Symbol	Min	Type	Max	UNIT
Instantaneous forward voltage	$I_F=1A^{(2)}$	$V_F$	-	-	1.10	V
Reverse current	$V_R=V_{DC}$ $T_j=25\text{ °C}$ $T_j=100\text{ °C}$	$I_R$	-	-	5 50	$\mu A$
Typical junction capacitance	4.0 V, 1MHz	$C_J$	-	15.0	-	pF

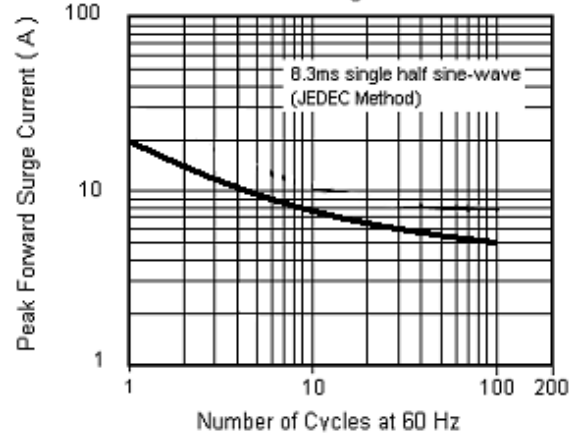
Note 2: Pulse test: 300µs pulse width, 1% duty cycle.

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

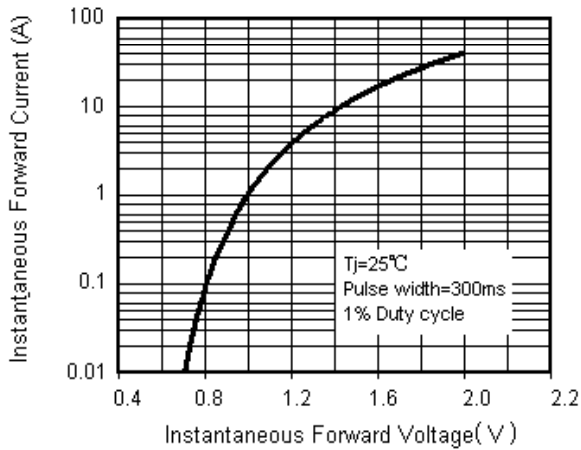
**Fig.1 Forward Current Derating Curve**



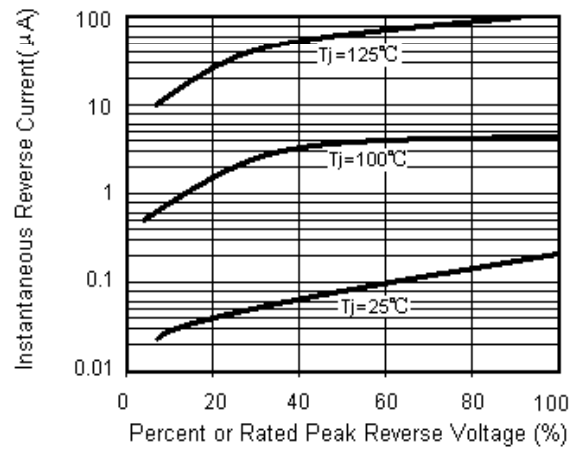
**Fig.2 Maximum Non-Repetitive Peak Forward Surge Current**



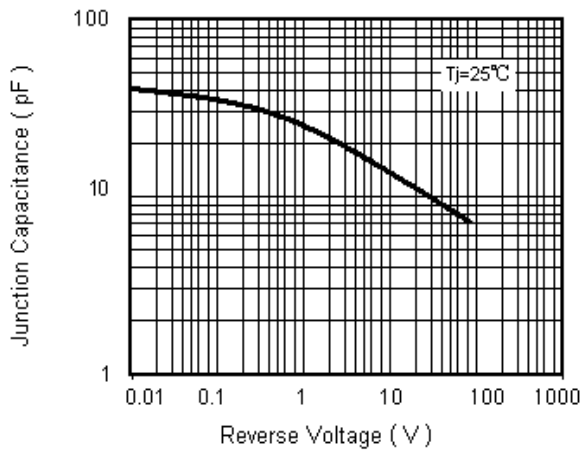
**Fig.3 Typical Instantaneous Forward Characteristics**



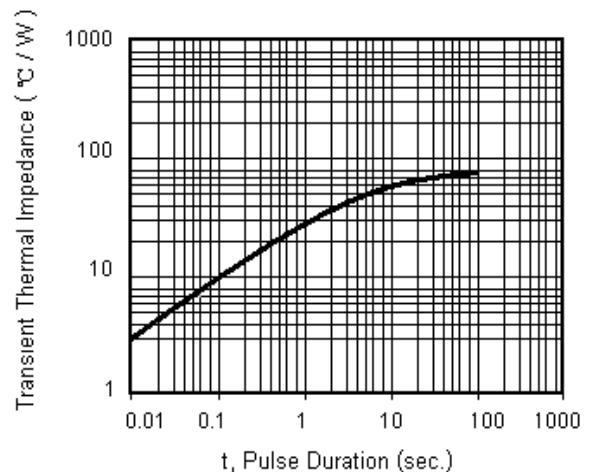
**Fig.4 Typical Reverse Leakage Characteristics**



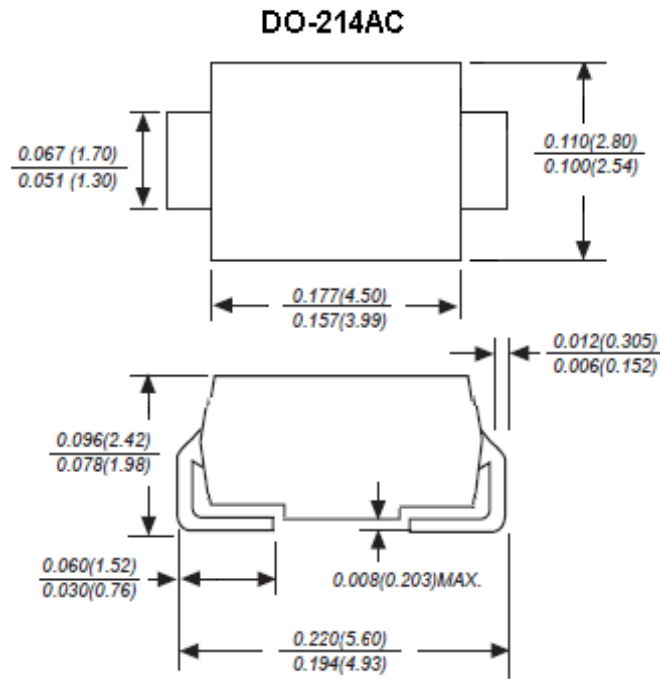
**Fig.5 Typical Junction Capacitance**



**Fig.6 Transient Thermal Impedance**



**Package Outline**    Dimensions in millimeters (inches)



Dimensions in inches and (millimeters)