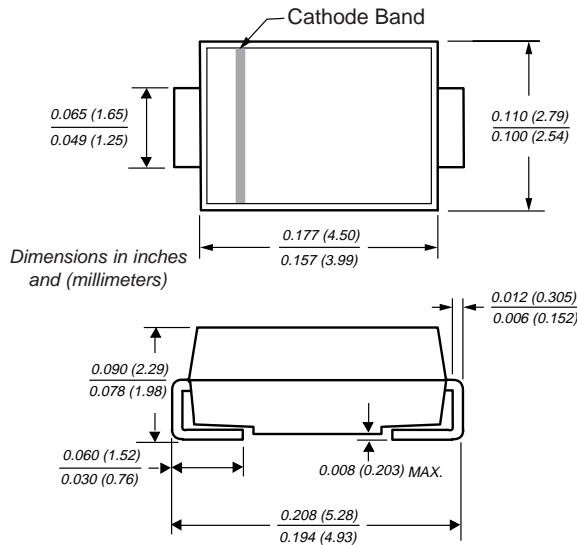




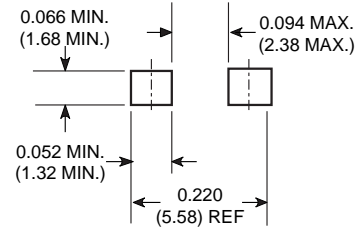
## Surface Mount Glass Passivated Rectifier

Reverse Voltage 50 to 1000V  
Forward Current 1.0A

DO-214AC (SMA)



### Mounting Pad Layout



### Mechanical Data

**Case:** JEDEC DO-214AC molded plastic over glass passivated chip

**Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026

**Polarity:** Color band denotes cathode end

**Weight:** 0.002 oz., 0.064 g

### Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Low profile package
- Built-in strain relief, ideal for automated placement
- Glass passivated chip junction
- High temperature soldering: 250°C/10 seconds at terminals

### Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	S1A	S1B	S1D	S1G	S1J	S1K	S1M	Unit
Device marking code		SA	SB	SD	SG	SJ	SK	SM	
Maximum recurrent 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 (see fig.1)	$I_{F(AV)}$	1.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) $T_L=110^\circ\text{C}$	$I_{FSM}$	40			30			A	
Typical thermal resistance <sup>(1)</sup>	$R_{\theta JA}$	75			85			°C/W	
	$R_{\theta JL}$	27			30				
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +150							°C

### Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	S1A	S1B	S1D	S1G	S1J	S1K	S1M	Unit
Maximum instantaneous forward voltage at 1.0A	$V_F$	1.10							V
Maximum DC reverse current at Rated DC blocking voltage $T_A=25^\circ\text{C}$ $T_A=125^\circ\text{C}$	$I_R$	1.0					5.0		$\mu\text{A}$
		50							
Typical reverse recovery time at $I_F = 0.5\text{A}, I_R = 1.0\text{A}, I_{rr} = 0.25\text{A}$	$t_{rr}$	1.8							$\mu\text{s}$
Typical junction capacitance at 4.0V, 1MHz	$C_J$	12							pF

**Note:** (1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.2 x 0.2" (5.0 x 5.0mm) copper pad areas

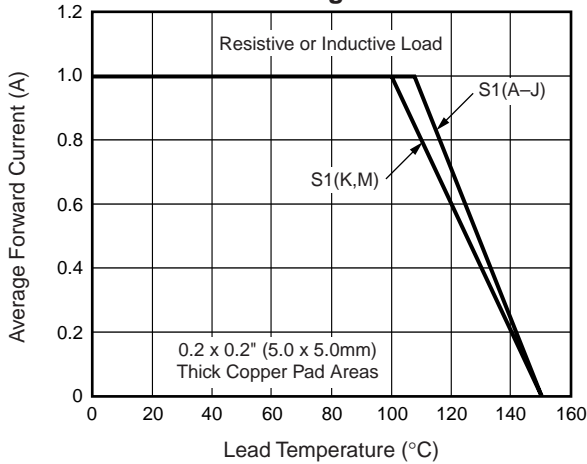
# S1A thru S1M

Vishay Semiconductors  
formerly General Semiconductor

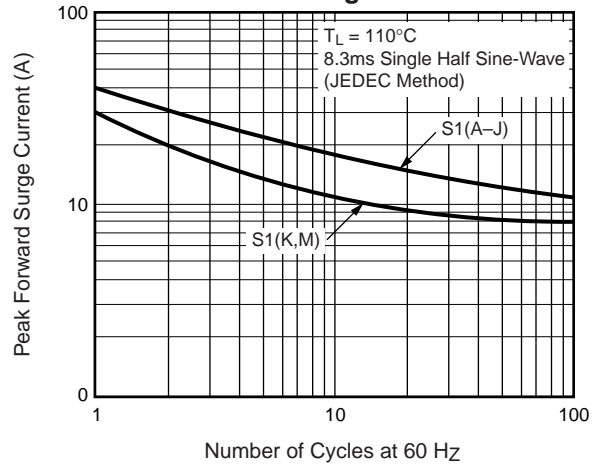


## Ratings and Characteristic Curves ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

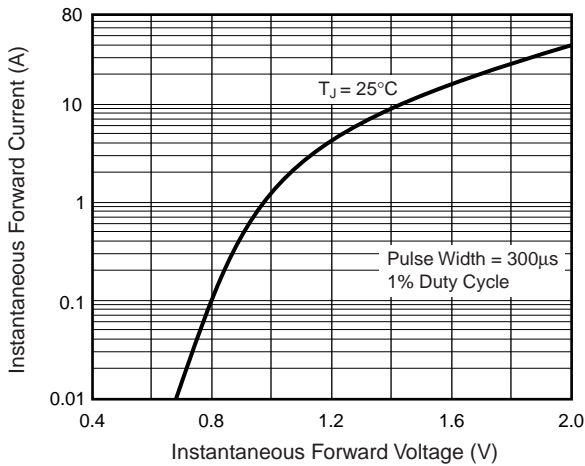
**Fig. 1 – Forward Current Derating Curve**



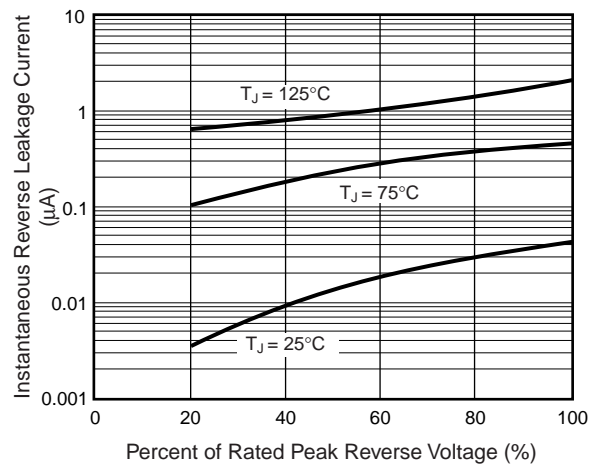
**Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current**



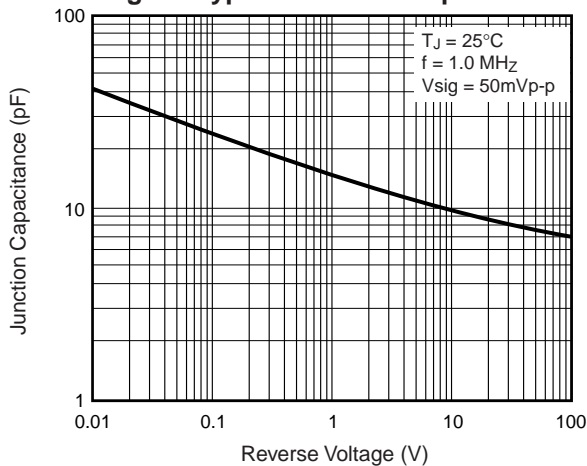
**Fig. 3 – Typical Instantaneous Forward Characteristics**



**Fig. 4 – Typical Reverse Leakage Characteristics**



**Fig. 5 – Typical Junction Capacitance**



**Fig. 6 – Transient Thermal Impedance**

