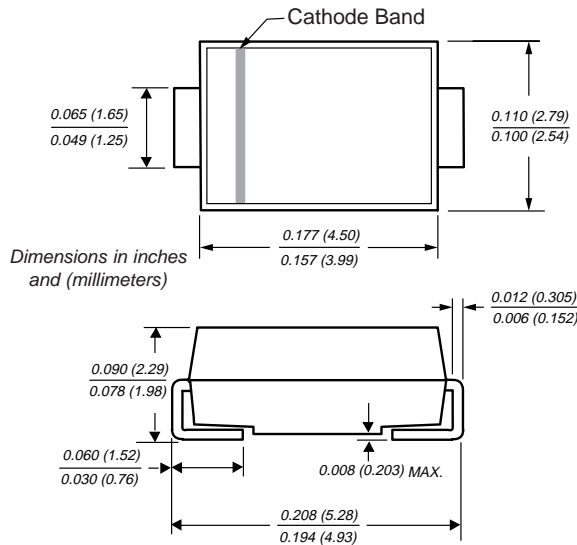




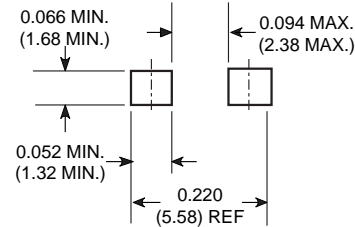
Surface Mount Glass Passivated Rectifier

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 ⁽¹⁾	$R_{\theta JA}$	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		μA
		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							μs
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

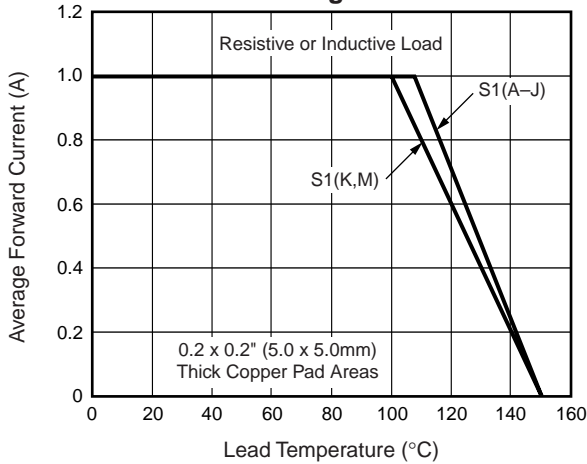


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

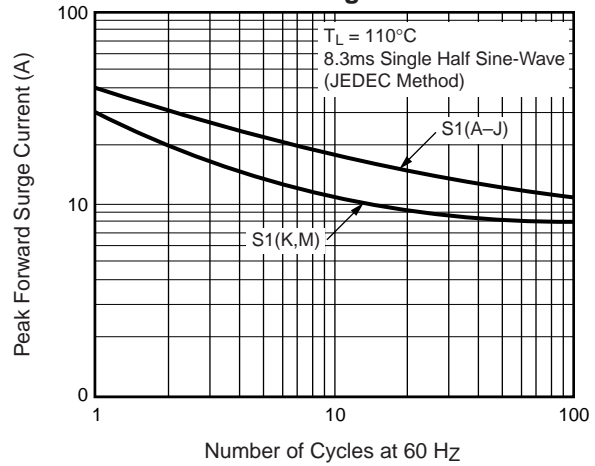


Fig. 3 – Typical Instantaneous Forward Characteristics

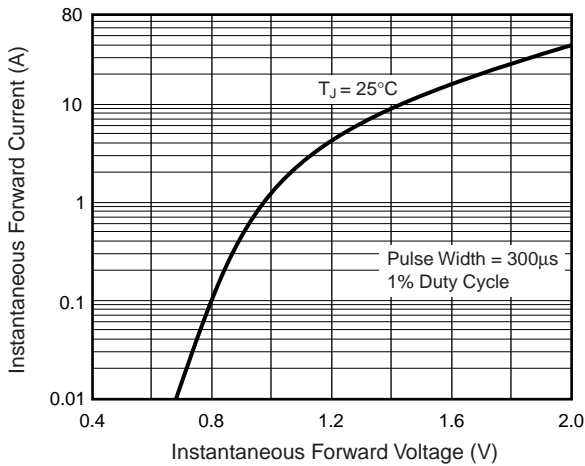


Fig. 4 – Typical Reverse Leakage Characteristics

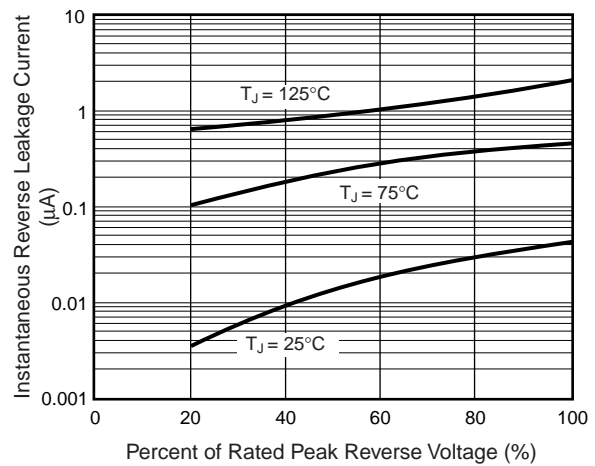


Fig. 5 – Typical Junction Capacitance

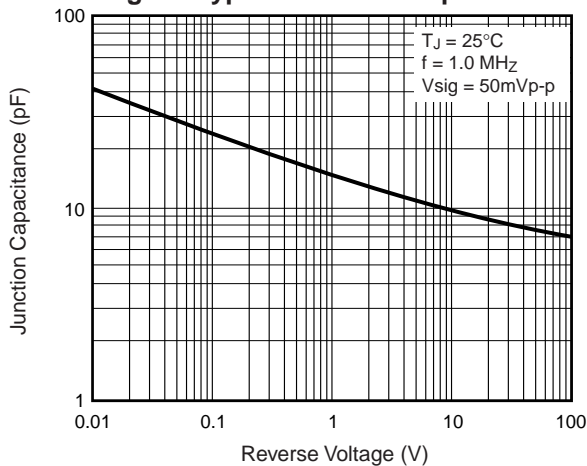


Fig. 6 – Transient Thermal Impedance

