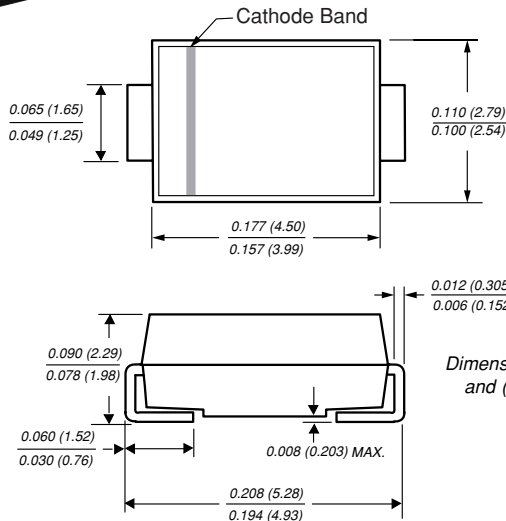




Surface Mount Fast Switching Rectifier

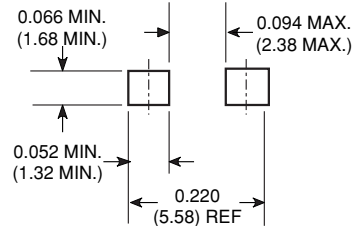
DO-214AC (SMA)

Reverse Voltage 50 to 800V
Forward Current 1.0A



Dimensions in inches
and (millimeters)

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

Packaging codes/options:

2Q/7.5K per 13" Reel (12mm Tape)

2P/1.8K per 7" Reel (12mm Tape)

Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Low profile surface mount package
- Built-in strain relief
- Fast switching for high efficiency
- 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	Symbols	RS1A	RS1B	RS1D	RS1G	RS1J	RS1K	Units
Device marking code		RA	RB	RD	RG	RJ	RK	
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	500	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	V
Maximum average forward rectified current at $T_L=90^\circ\text{C}$	$I_{F(AV)}$	1.0						A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) $T_L=90^\circ\text{C}$	I_{FSM}	30						A
Typical thermal resistance ⁽¹⁾	$R_{\theta JA}$ $R_{\theta JL}$	105 32						°C/W
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.

Maximum instantaneous forward voltage at 1.0A	V_F	1.30						V	
Maximum DC reverse current at rated DC blocking voltage	I_R	5.0 50						μA	
Maximum reverse recovery time at $I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$	t_{rr}	150						250 500	ns
Typical junction capacitance at 4.0V, 1MHz	C_J	10						7.0	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 area

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

Fig. 1 – Forward Current Derating Curve

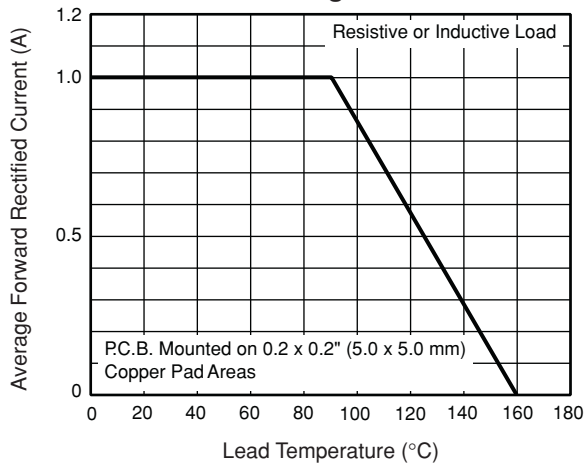


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

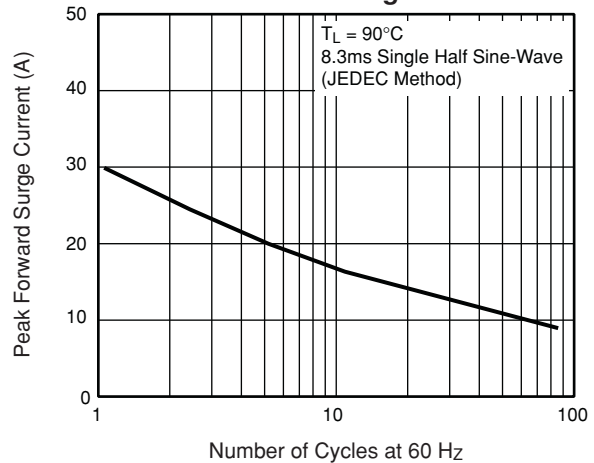


Fig. 3 – Typical Instantaneous Forward Characteristics

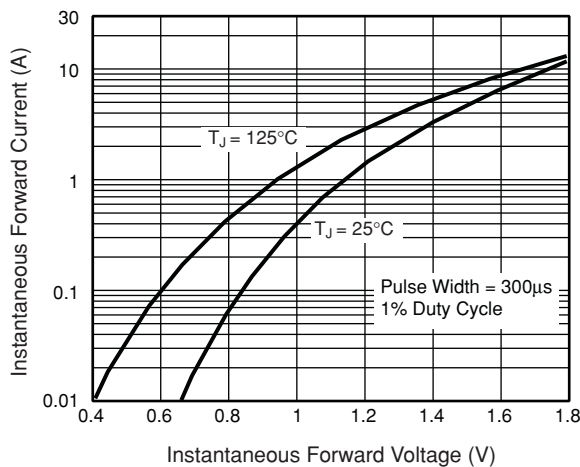


Fig. 4 – Typical Reverse Characteristics

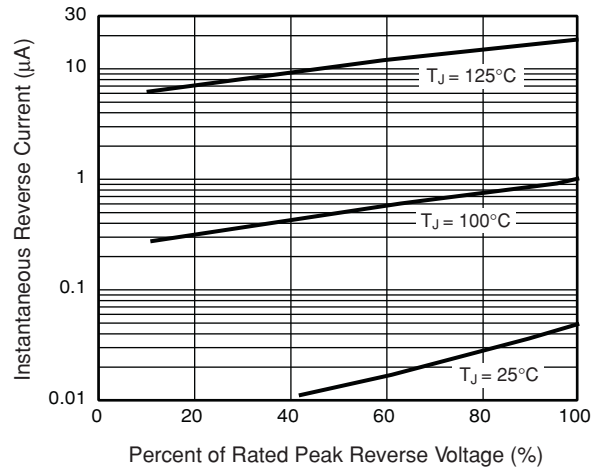


Fig. 5 – Typical Junction Capacitance

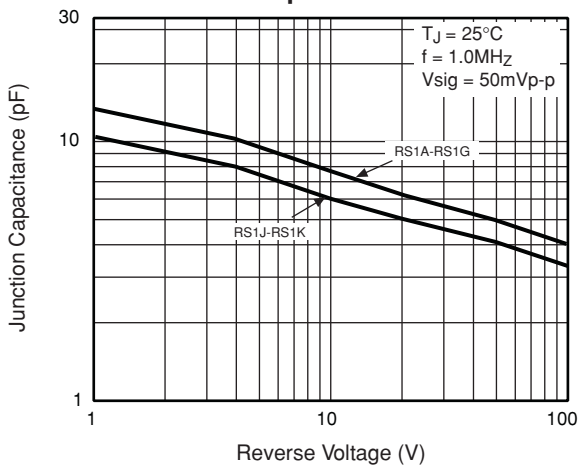


Fig. 6 – Typical Transient Thermal Impedance

