

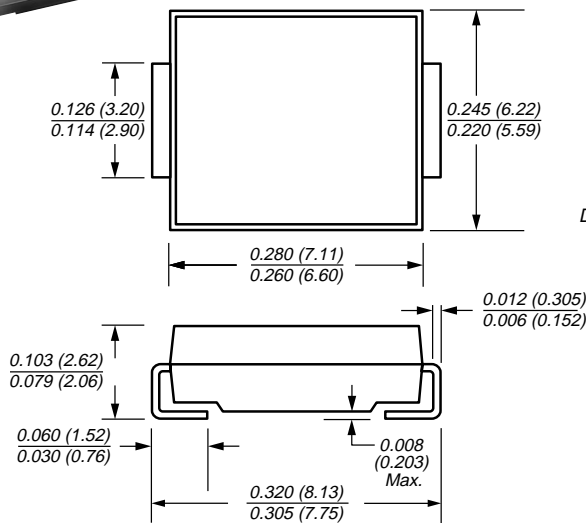
Surface Mount Fast Switching Rectifier

Reverse Voltage 50 to 800 V

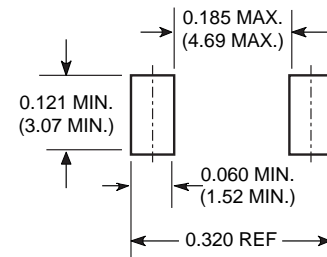
Forward Current 3.0 A



DO-214AB (SMC)



Mounting Pad Layout



Mechanical Data

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

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

Polarity: Color band denotes cathode end

Weight: 0.007 ounce, 0.25 gram

Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Low profile surface mount package
- Built-in strain relief
- Fast switching for high efficiency
- Easy pick and place
- 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.

Parameters	Symbols	RS3A	RS3B	RS3D	RS3G	RS3J	RS3K	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 $T_L=75^\circ\text{C}$	$I_{F(AV)}$	3.0						A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) $T_L=75^\circ\text{C}$	I_{FSM}	100						A
Typical thermal resistance (NOTE 1)	$R_{\theta JA}$ $R_{\theta JL}$	50 15						$^\circ\text{C/W}$
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150						$^\circ\text{C}$

Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameters	Symbols	RS3A	RS3B	RS3D	RS3G	RS3J	RS3K	Units
Maximum instantaneous forward voltage at 2.5A	V_F	1.3						V
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=125^\circ\text{C}$	I_R	10 250						μA
Maximum reverse recovery time $I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$	t_{rr}	150				250	500	ns
Typical junction capacitance at 4.0V, 1MHz	C_J	60						pF

Notes: (1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.3 x 0.3" (8.0 x 8.0mm) copper pad areas

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

FIG. 1 - FORWARD CURRENT DERATING CURVE

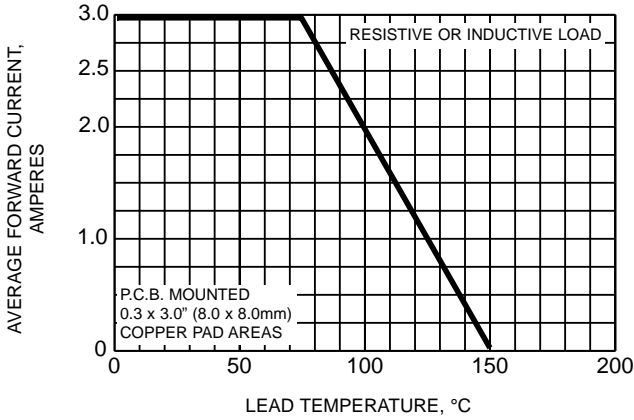


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

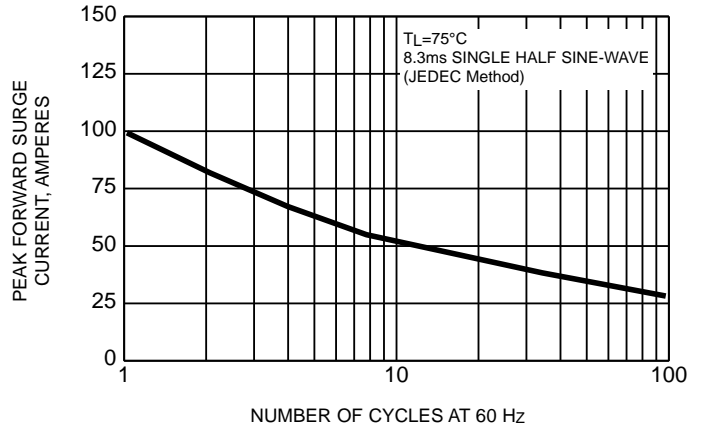


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

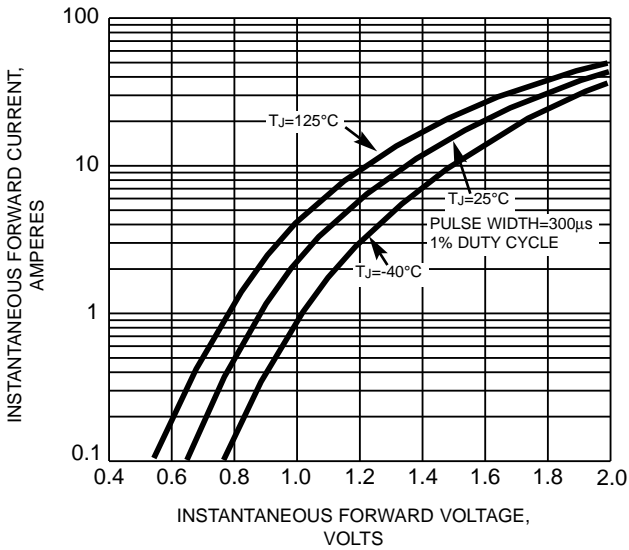


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

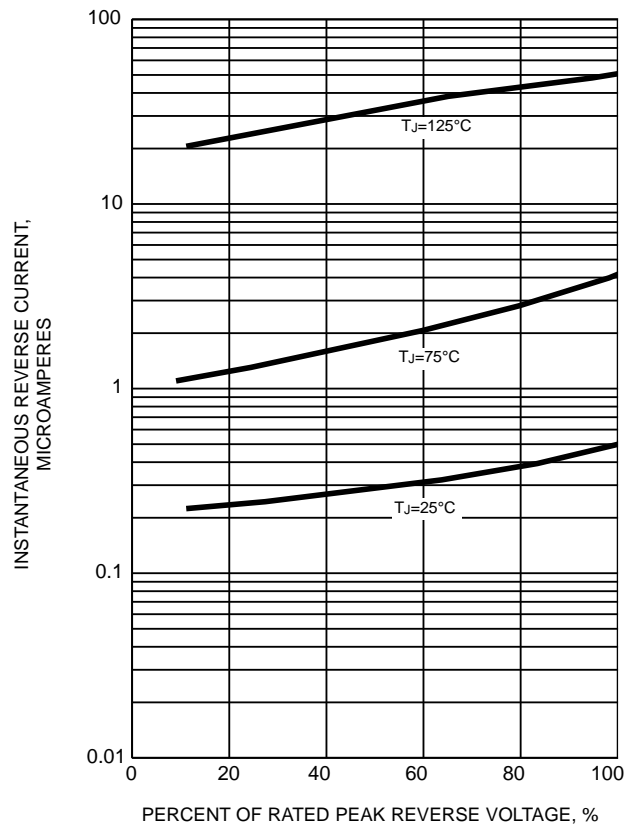


FIG. 5 - TYPICAL TRANSIENT THERMAL IMPEDANCE

