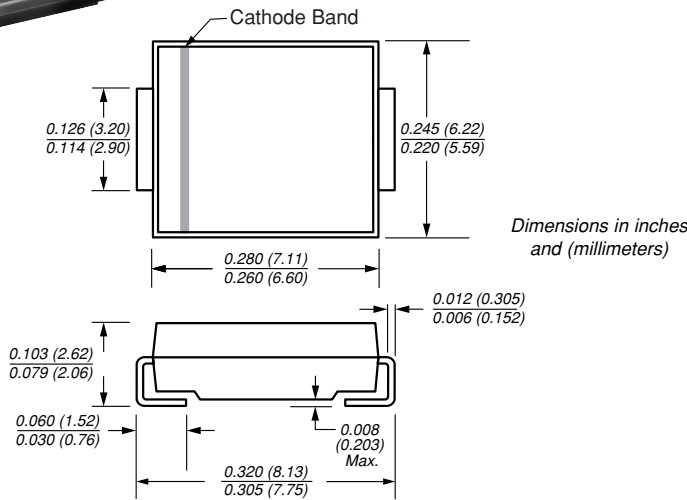




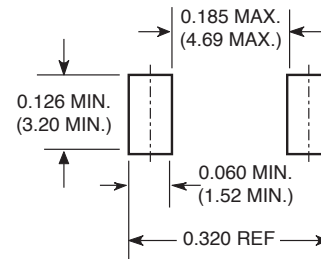
## Surface Mount Fast Switching Rectifier

DO-214AB (SMC)

Reverse Voltage 50 to 800V  
Forward Current 3.0A



### 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 oz., 0.25 g  
**Packaging codes/options:**  
 9/3.5K per 13" Reel (16mm Tape)  
 7/850 EA per 7" Reel (16mm 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
- 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 <sup>(1)</sup>	$R_{\theta JA}$ $R_{\theta JL}$	50 15						$^\circ\text{C/W}$
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +150						$^\circ\text{C}$

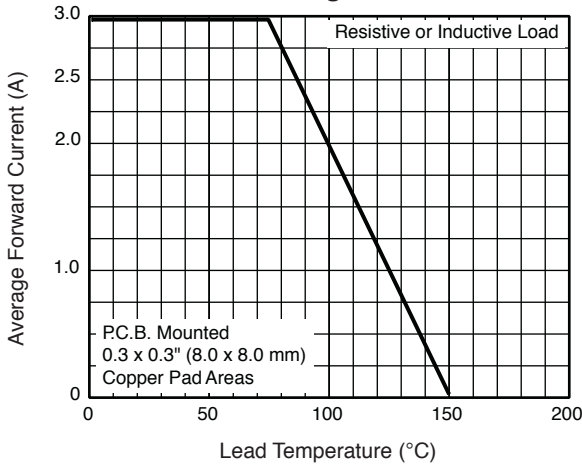
### Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Maximum instantaneous forward voltage at 2.5A	$V_F$	1.3						V
Maximum DC reverse current at rated DC blocking voltage $T_A=25^\circ\text{C}$ $T_A=125^\circ\text{C}$	$I_R$	10 250						$\mu\text{A}$
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	$C_J$	44				34		pF

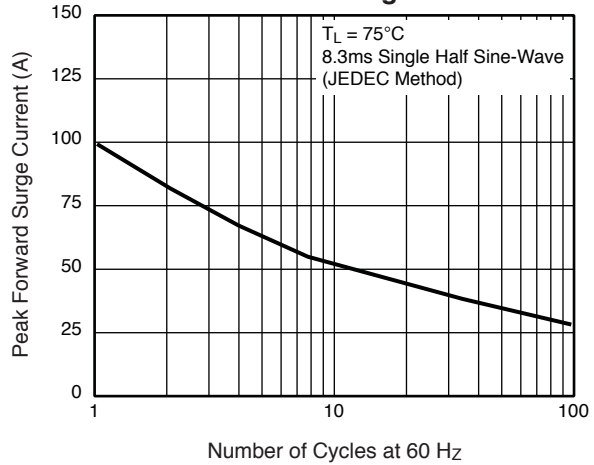
**Notes:** (1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.3 x 0.3" (8.0 x 8.0mm) copper pad area

## Ratings and Characteristic Curves (T<sub>A</sub> = 25°C unless otherwise noted)

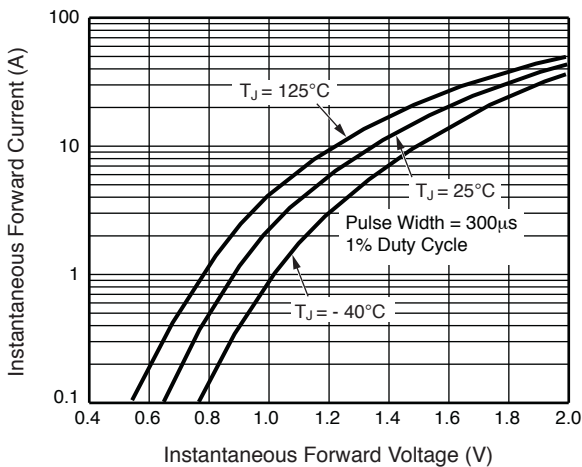
**Fig. 1 – Forward Current Derating Curve**



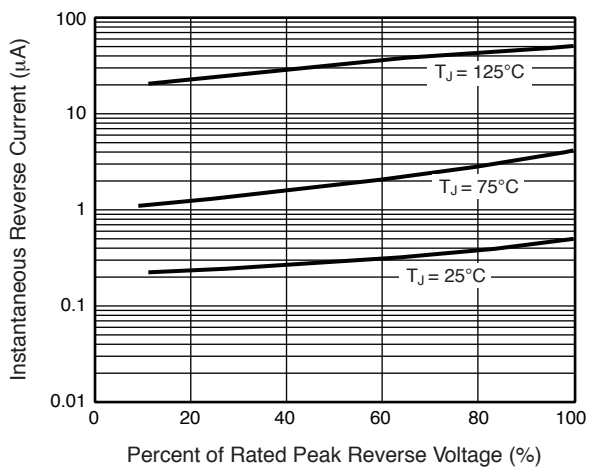
**Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current**



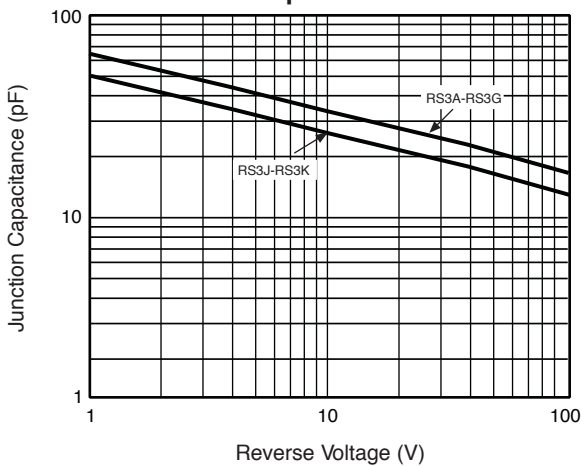
**Fig. 3 – Typical Instantaneous Forward Characteristics**



**Fig. 4 – Typical Reverse Characteristics**



**Fig. 5 – Typical Junction Capacitance**



**Fig. 6 – Typical Transient Thermal Impedance**

