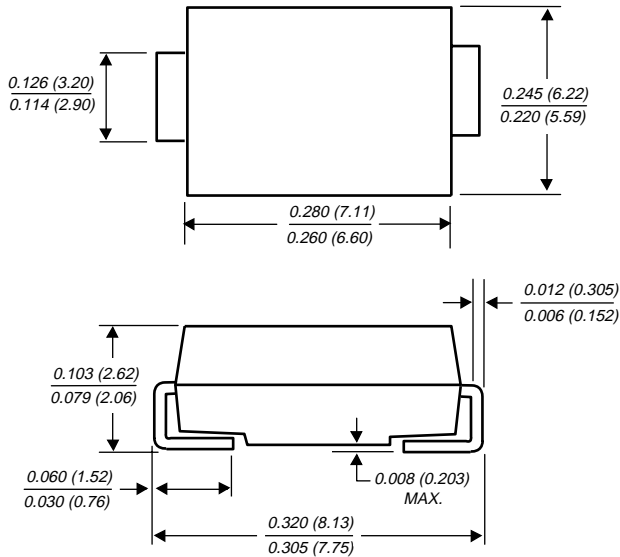


# RS3A THRU RS3K

## SURFACE MOUNT FAST SWITCHING RECTIFIER

Reverse Voltage - 50 to 800 Volts      Forward Current - 3.0 Amperes

### DO-214AB MODIFIED J-BEND



Dimensions in inches and (millimeters)

### FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ For surface mount applications
- ◆ Low profile package
- ◆ Built-in strain relief, ideal for automated placement
- ◆ Fast switching for high efficiency
- ◆ Easy pick and place
- ◆ Glass passivated chip junction
- ◆ High temperature soldering: 250°C/10 seconds at terminals



### MECHANICAL DATA

**Case:** JEDEC DO-214AB molded plastic body over 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

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	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	Volts
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	Volts
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	Volts
Maximum average forward rectified current at $T_L=75^\circ\text{C}$	$I_{(AV)}$	3.0						Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) $T_L=75^\circ\text{C}$	$I_{FSM}$	100.0						Amps
Maximum instantaneous forward voltage at 2.5A	$V_F$	1.3						Volts
Maximum DC reverse current at Rated DC blocking voltage	$I_R$	$T_A=25^\circ\text{C}$ 10.0 $T_A=125^\circ\text{C}$ 250						$\mu\text{A}$
Maximum reverse recovery time (NOTE 1)	$t_{rr}$	150				250	500	ns
Typical junction capacitance (NOTE 2)	$C_J$	60.0						pF
Typical thermal resistance (NOTE 3)	$R_{\theta JA}$ $R_{\theta JL}$	50.0 15.0						$^\circ\text{C/W}$
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +150						$^\circ\text{C}$

#### NOTES:

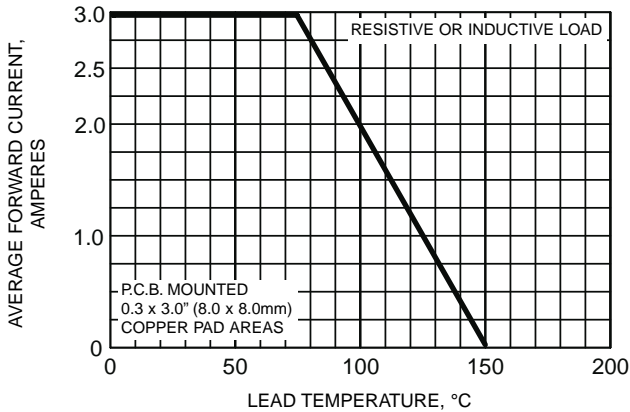
(1) Reverse recovery test conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{rr}=0.25\text{A}$

(2) Measured at 1.0 MHz and applied  $V_R=4.0$  Volts

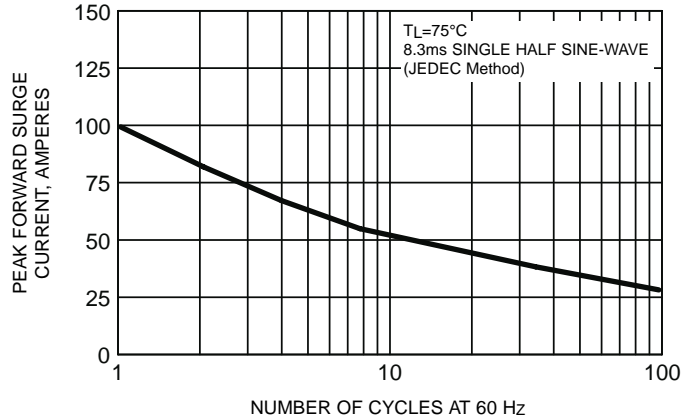
(3) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.3 x 0.3" (8.0 x 8.0mm) copper pad areas

# RATINGS AND CHARACTERISTIC CURVES RS3A THRU RS3K

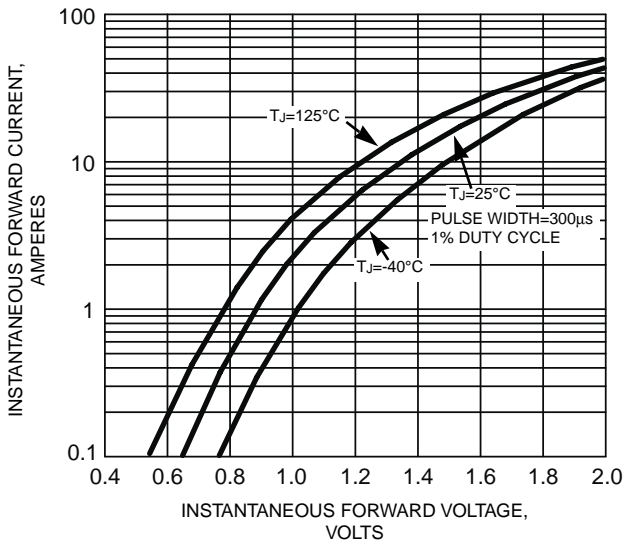
**FIG. 1 - FORWARD CURRENT DERATING CURVE**



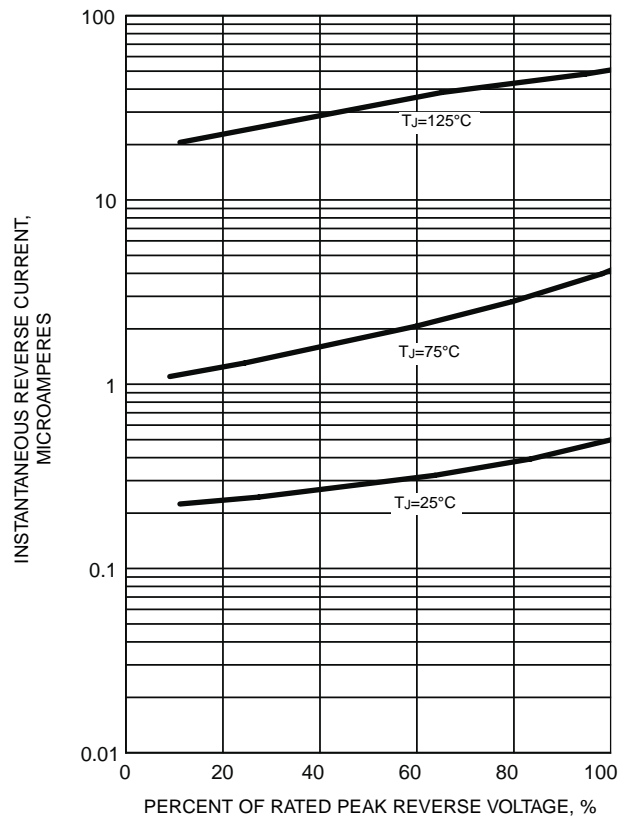
**FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



**FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



**FIG. 4 - TYPICAL REVERSE CHARACTERISTICS**



**FIG. 5 - TYPICAL TRANSIENT THERMAL IMPEDANCE**

