



# RS3A THRU RS3M

## Surface Mount Fast Recovery Rectifier

### Features

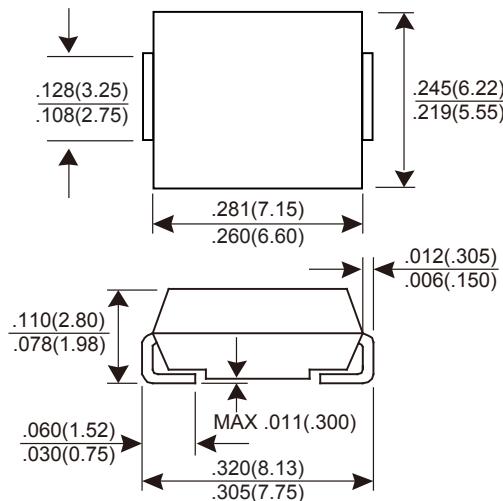
- ★ Fast switching for high efficiency
- ★ Low forward voltage drop
- ★ High current capability
- ★ Low reverse leakage current
- ★ High surge current capability

### Mechanical Data

- ★ Case: Molded plastic, SMC/DO-214AB
- ★ Epoxy: UL 94V-0 rate flame retardant
- ★ Terminals: Solderable per MIL-STD-750, method 2026
- ★ Polarity: Color band denotes cathode end
- ★ Mounting position: Any

**Voltage Range 50 to 1000 V  
Current 3.0 Ampere**

**SMC/DO-214AB**



Dimensions in inches and (millimeters)

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

PARAMETER	SYMBOL	RS3A	RS3B	RS3D	RS3G	RS3J	RS3K	RS3M	UNIT			
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	V			
Maximum RMS voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	V			
Maximum DC blocking voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	V			
Maximum average forward rectified current @T <sub>L</sub> =75°C	I <sub>F(AV)</sub>	3.0							A			
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	100							A			
Maximum instantaneous forward voltage @ I <sub>F</sub> =3.0A	V <sub>F</sub>	1.3							V			
Maximum DC reverse current @T <sub>A</sub> =25°C at rated DC blocking voltage @T <sub>A</sub> =125°C	I <sub>R</sub>	10 250							µA			
Maximum reverse recovery time (Note 1)	t <sub>rr</sub>	150			250	500			ns			
Typical junction capacitance (Note 2)	C <sub>J</sub>	50							pF			
Typical thermal resistance from junction to ambient (Note 3)	R <sub>θJA</sub>	50							°C/W			
Typical thermal resistance from junction to lead (Note 3)	R <sub>θJL</sub>	15							°C/W			
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150							°C			

NOTES : (1) Reverse recovery test conditions I<sub>F</sub> = 0.5A, I<sub>R</sub> = 1.0A, I<sub>rr</sub> = 0.25A.

(2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts DC.

(3) Mounted on PCB with 0.3" x 0.3" (8.0 mm x 8.0 mm) copper pad areas.

# RATINGS AND CHARACTERISTICS CURVES RS3A THRU RS3M

Fig.1 - Forward Current Derating Curve

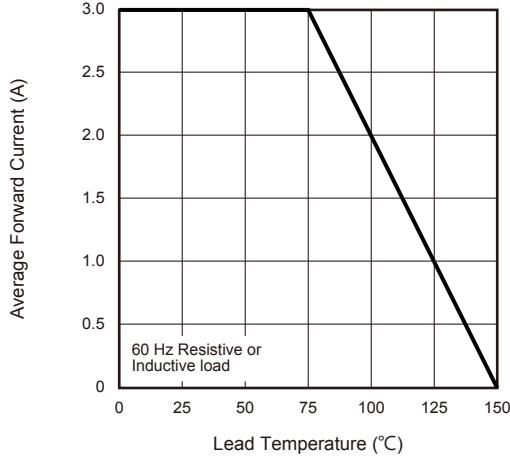


Fig.2 - Maximum Non-Repetitive Peak Forward Surge Current

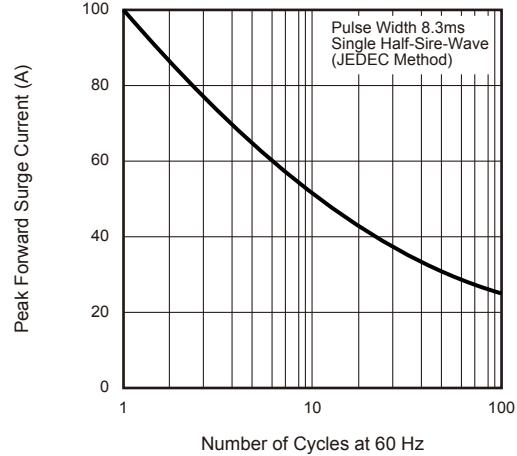


Fig.3 - Typical Instantaneous Forward Characteristics

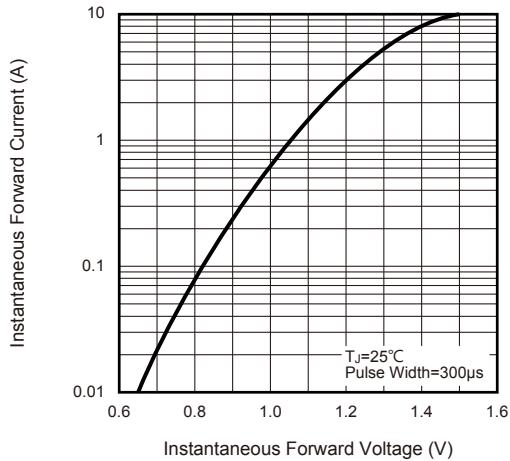


Fig.4 - Typical Reverse Leakage Characteristics

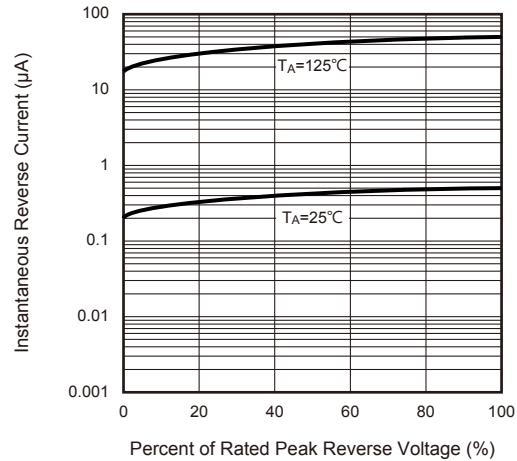


Fig.5 - Typical Junction Capacitance

