

III. Fast / Ultra Fast / Super Fast Recovery Rectifier

3.0A Surface Mount Fast Recovery Rectifier

RS3A~RS3M

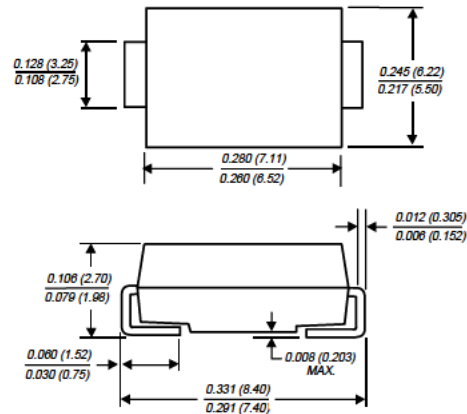
(Package: SMC (DO-214AB))

FEATURES

- For surface mounted applications.
- Glass passivated junction chip.
- Built-in strain relief, ideal for automated placement.
- Plastic material used carries Underwriters Laboratory Flammability Classification 94V-0.
- Fast switching for high efficiency.
- High temperature soldering : 260°C/10 seconds at terminals.

MECHANICAL DATA

- Case : Molded plastic
- Terminals : Solder plated
- Polarity : Indicated by cathode band
- Weight : 0.220 grams



Case: SMC
Dimensions in inches and (millimetres)

Ratings & Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20%.

Characteristics	Symbol	RS3A	RS3B	RS3D	RS3G	RS3J	RS3K	RS3M	Units
Maximum recurrent peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	Volts
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	Volts
Maximum average forward rectified current See Fig. 1 @ $T_L=110^\circ\text{C}$	I_o	3.0							Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load. (JEDEC Method)	I_{FSM}	100							Amps
Maximum instantaneous forward voltage @ 3.0 A	V_F	1.3							Volts
Maximum DC reverse current @ $T_a = 25^\circ\text{C}$ at rated DC blocking voltage @ $T_a = 125^\circ\text{C}$	I_R	10 200							μA
Maximum reverse recovery time (Note 1)	T_{rr}	150			250		500		ns
Typical junction capacitance (Note 2)	C_j	60							PF
Typical thermal resistance (Note 3)	R_{th-JA} R_{th-JL}	50.0 15.0							$^\circ\text{C/W}$
Operating temperature range	T_j	-55 to +150							$^\circ\text{C}$
Storage temperature range	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 $V_R=4.0\text{V}$.
3. Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.6"x0.6" (16x16mm) copper pad areas.

<http://patron-components.com/>

Ratings and Characteristic Curves of RS3A~RS3M

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

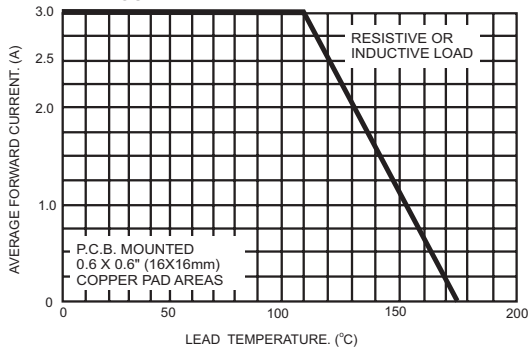


FIG.2 MAXIMUM NON REPETITIVE PEAK FORWARD SURGE CURRENT

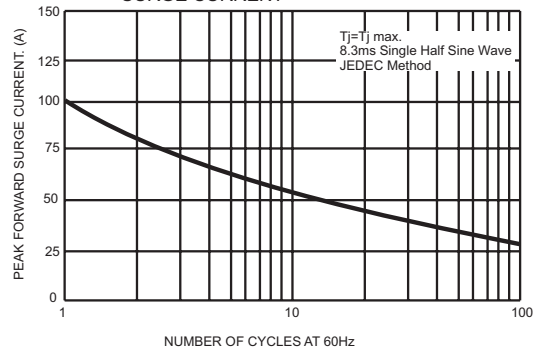


FIG.3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

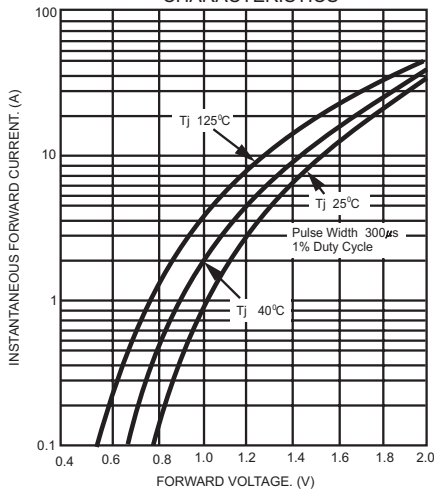


FIG.4 TYPICAL REVERSE CHARACTERISTICS

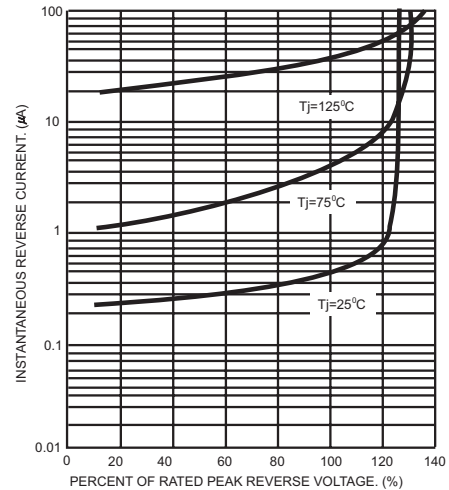


FIG.5 TYPICAL JUNCTION CAPACITANCE

