

III. Fast / Ultra Fast / Super Fast Recovery Rectifier

5.0A Surface Mount Fast Recovery Rectifier

RS5A~RS5M

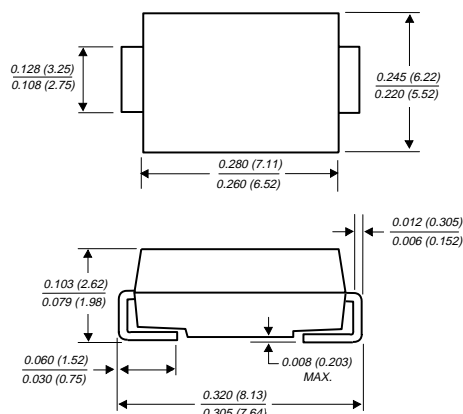
(Package: SMC (DO-214AB))

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 : 250 /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

Characteristics	Symbol	RS5A	RS5B	RS5D	RS5G	RS5J	RS5K	RS5M	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 @ $T_L=75$	I_o	5.0							Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load. (JEDEC Method)	I_{FSM}	150							Amps
Maximum instantaneous forward voltage @ 5.0 A	V_F	1.3							Volts
Maximum DC reverse current @ $T_a = 25$ at rated DC blocking voltage @ $T_a = 100$	I_R	10 250							μA
Maximum reverse recovery time (Note 1)	T_{rr}	150			250		500		ns
Typical junction capacitance (Note 2)	C_j	78							PF
Typical thermal resistance	R_{th-JA}	50.0							/W
Operating temperature range	T_j	-65 to +150							
Storage temperature range	T_{stg}	-65 to +150							

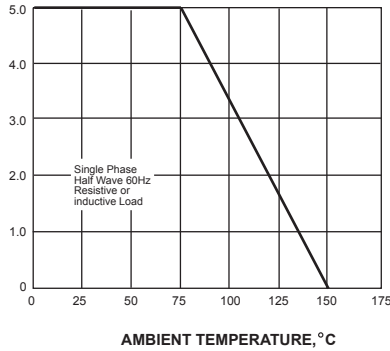
Notes:

1. Reverse recovery test conditions: $I_F=0.5A$, $I_R=1.0A$, $I_{RR}=0.25A$
2. Measured at 1.0 MHz and applied $V_R=4.0V$.

Ratings and Characteristic Curves of RS5A~RS5M

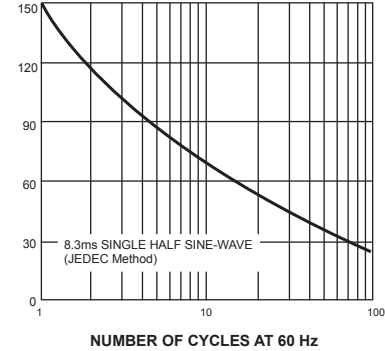
AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



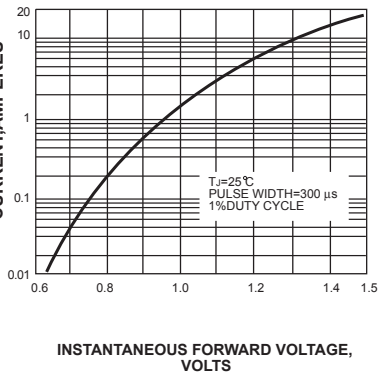
PEAK FORWARD SURGE CURRENT, AMPERES

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



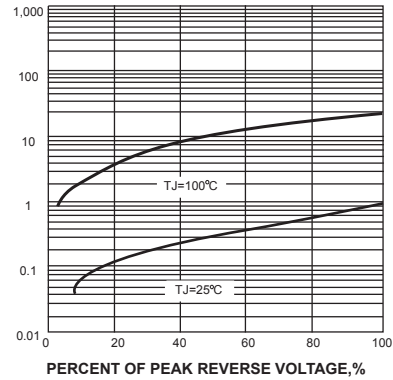
INSTANTANEOUS FORWARD CURRENT, AMPERES

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



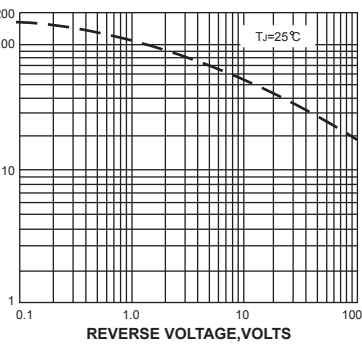
INSTANTANEOUS REVERSE CURRENT, MICROAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS



JUNCTION CAPACITANCE, pF

FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE, °C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

