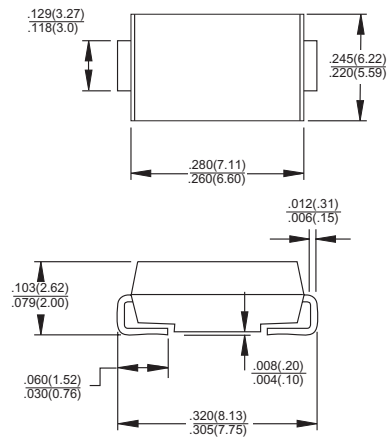
RS3A THRU RS3M

3.0 AMPS. Fast Recovery Surface Mount Rectifiers



Voltage Range
50 to 1000 Volts
Current
3.0 Amperes

SMC/DO-214AB



Dimensions in inches and (millimeters)

Features

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

Mechanical Data

- ✧ Cases: Molded plastic
- ✧ Terminals: Solder plated
- ✧ Polarity: Indicated by cathode band
- ✧ Packing: 16mm tape per E1A STD RS-481
- ✧ Weight: 0.21 gram

Maximum Ratings and Electrical Characteristics

Rating at 25℃ ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%

Type Number	Symbol	RS 3A	RS 3B	RS 3D	RS 3G	RS 3J	RS 3K	RS 3M	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current See Fig. 1 @T_L=75°C	$I_{(AV)}$	3.0							A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	100							A
Maximum Instantaneous Forward Voltage @ 3.0A	V_F	1.3							V
Maximum DC Reverse Current @ T_A =25℃ at Rated DC Blocking Voltage @ T_A=125℃	I_R	10 250							uA uA
Maximum Reverse Recovery Time (Note 1)	Trr	150				250	500		nS
Typical Junction Capacitance (Note 2)	Cj	60							pF
Typical Thermal Resistance (Note 3)	$R\theta_{JA}$ $R\theta_{JL}$	50.0 15.0							℃/W ℃/W
Operating Temperature Range	T_J	-55 to +150							℃
Storage Temperature Range	T_{STG}	-55 to +150							℃

Notes: 1. Reverse Recovery Test Conditions: IF=0.5A, IR=1.0A, IRR=0.25A
2. Measured at 1 MHz and Applied VR=4.0 Volts
3. Thermal Resistance from Junction to Ambient and from Junction to Lead Mounted on P.C.B. with 0.6"x0.6" (16 x 16 mm) Copper Pad Areas.

RATINGS AND CHARACTERISTIC CURVES (RS3A THRU RS3M)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

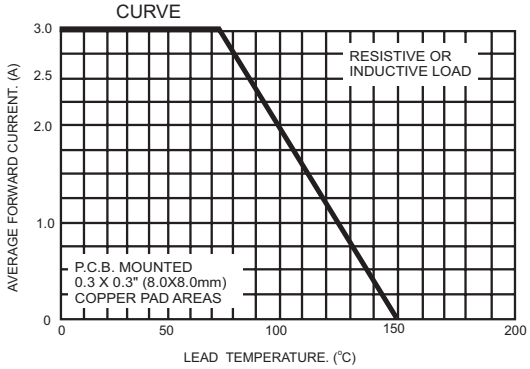


FIG.2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

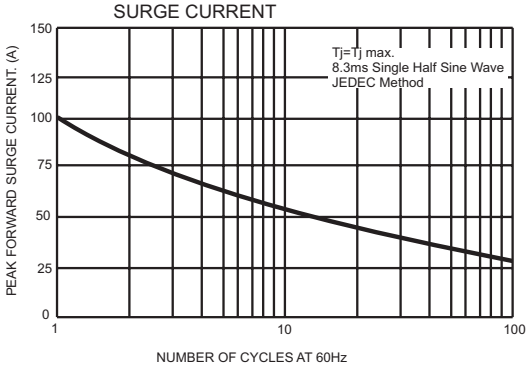


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

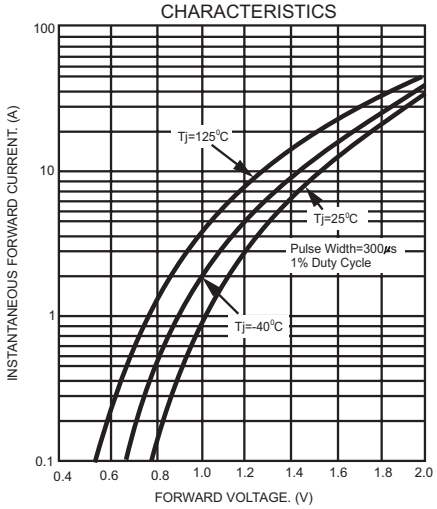


FIG.4- TYPICAL REVERSE CHARACTERISTICS

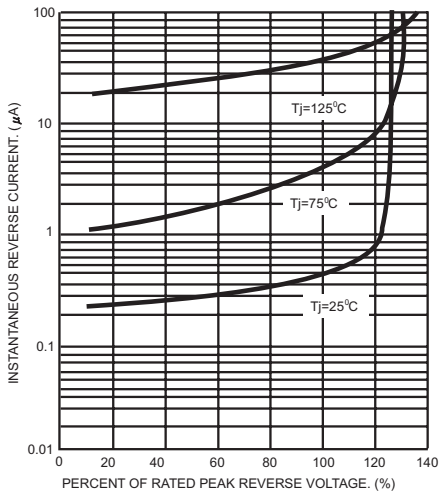


FIG.5- TYPICAL JUNCTION CAPACITANCE

