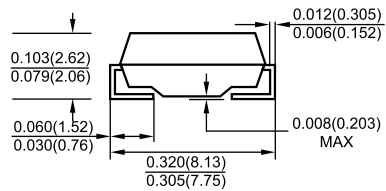
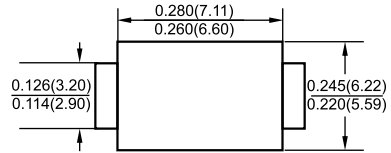




SMC/DO-214AB

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-0
- ✧ Fast switching for high efficiency
- ✧ High temperature soldering: 260°C /10 seconds at terminals



Mechanical Data

- ✧ Cases: Molded plastic
- ✧ Terminals: Pure tin plated, Lead free.
- ✧ Polarity: Indicated by cathode band
- ✧ Weight: 0.21 gram

Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Rating at 25 °C 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	FR 3A	FR 3B	FR 3D	FR 3G	FR 3J	FR 3K	FR 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 @ $T_L=75^{\circ}C$	$I_{(AV)}$	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 @ $T_A=25^{\circ}C$ at Rated DC Blocking Voltage @ $T_A=125^{\circ}C$	I_R	10 250							uA uA
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)	$R_{\theta JA}$ $R_{\theta JL}$	50 15							$^{\circ}C/W$
Operating Temperature Range	T_J	-55 to +150							$^{\circ}C$
Storage Temperature Range	T_{STG}	-55 to +150							$^{\circ}C$

- Notes:
1. Reverse Recovery Test Conditions: $I_F=0.5A$, $I_R=1.0A$, $IRR=0.25A$
 2. Measured at 1 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 0.6" x 0.6" (16mm x 16 mm) Copper Pad Areas.

RATINGS AND CHARACTERISTIC CURVES (FR3A THRU FR3M)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

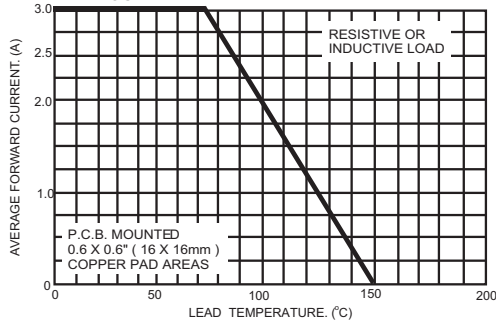


FIG.2- TYPICAL REVERSE CHARACTERISTICS

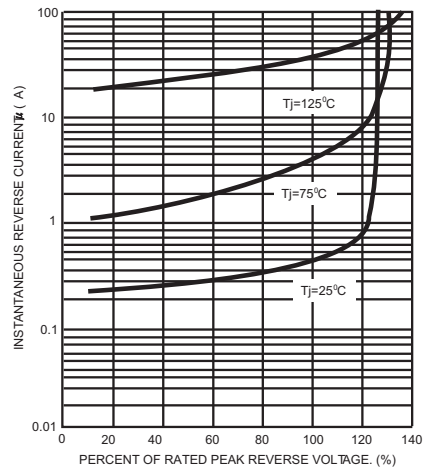


FIG.3- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

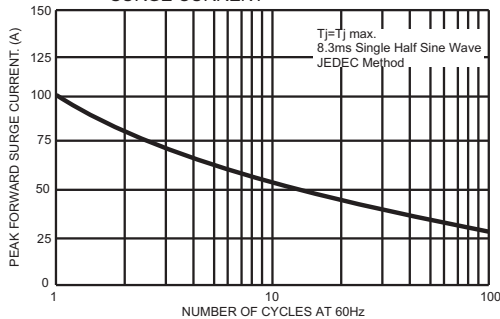


FIG.5- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

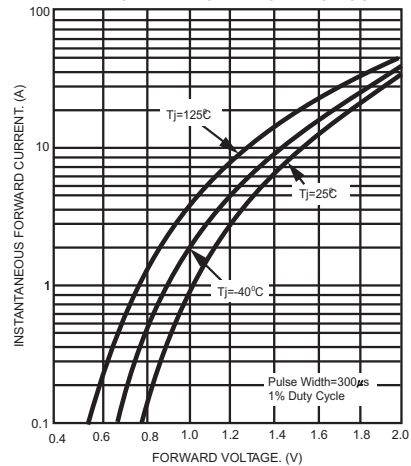


FIG.4- TYPICAL JUNCTION CAPACITANCE

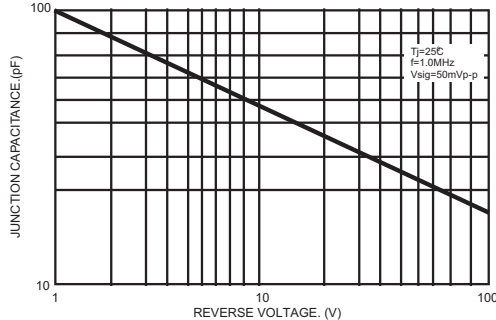
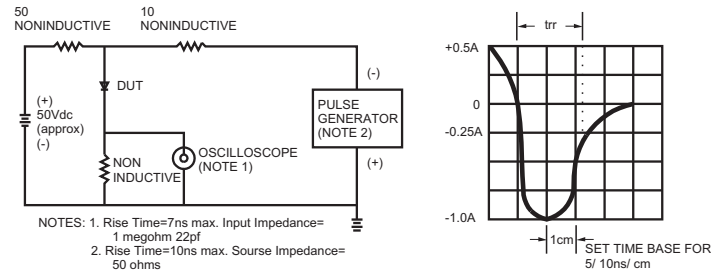


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



PACKAGE	SPQ/PCS	CARTON SPQ/PCS	CARTON SIZE/CM	CARTON GW/KG	CARTON NW/KG
SMC	3000/REEL	42000	36X36X36.5	18.50	15.50