

SMA/DO-214AC

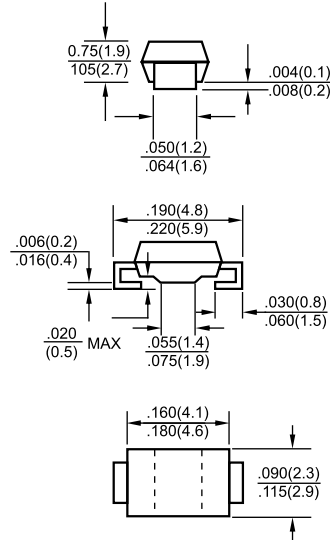


Features

- ✧ 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
- ✧ Packing: 12mm tape
- ✧ Weight: 0.064 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	FR1A	FR1B	FR1D	FR1G	FR1J	FR1K	FR1M	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 =90 °C	I _(AV)	1.0							A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I _{FSM}	30							A
Maximum Instantaneous Forward Voltage @ 1.0A	V _F	1.3							V
Maximum DC Reverse Current @ T _A =25 °C at Rated DC Blocking Voltage @ T _A =125 °C	I _R	5 50							uA uA
Maximum Reverse Recovery Time (Note 1)	T _{rr}	150				250	500		nS
Typical Junction Capacitance (Note 2)	C _j	10							pF
Typical Thermal Resistance (Note 3)	R _{θJA} R _{θJL}	105 32							°C /W
Operating Temperature Range	T _J	-55 to +150							°C
Storage Temperature Range	T _{STG}	-55 to +150							°C

- Notes:
- Reverse Recovery Test Conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $IRR=0.25\text{A}$
 - Measured at 1 MHz and Applied $V_R=4.0\text{ Volts}$
 - Thermal Resistance from Junction to Ambient and from Junction to Lead Mounted on P.C.B. with 0.2"x0.2" (5.0 x 5.0 mm) Copper Pad Areas.

RATINGS AND CHARACTERISTIC CURVES (FR1A THRU FR1M)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

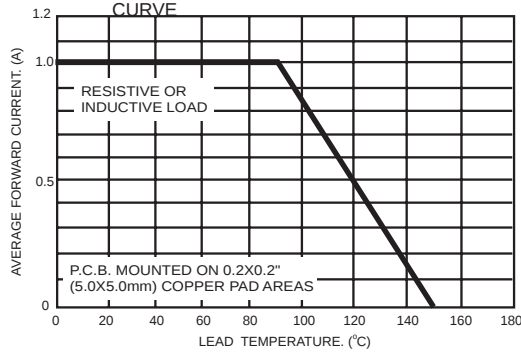


FIG.2- TYPICAL REVERSE CHARACTERISTICS

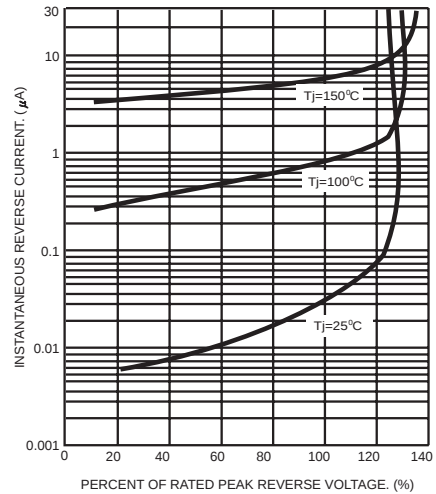


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

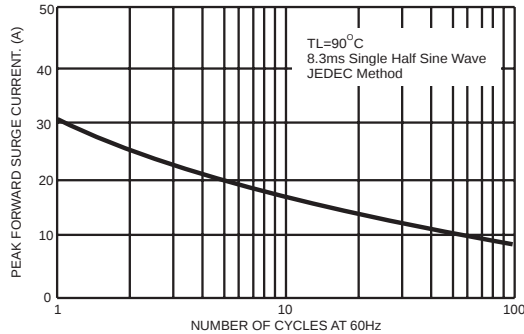


FIG.5- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

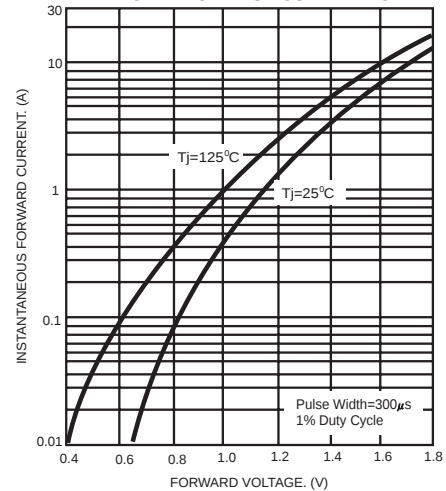


FIG.4- TYPICAL JUNCTION CAPACITANCE

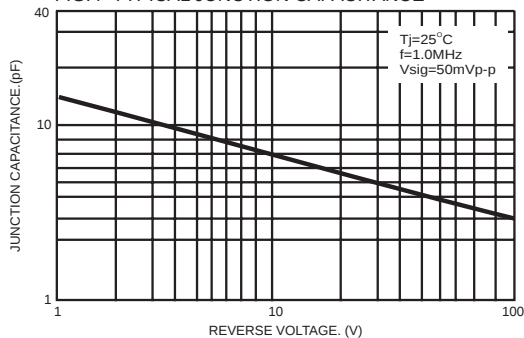


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

