

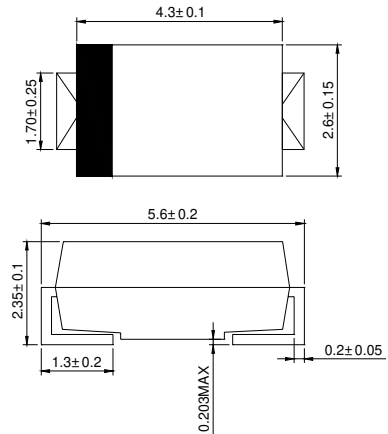


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SMAJ



Dimensions in millimeters

Features

- ✧ For surface mounted application
- ✧ Glass passivated junction chip.
- ✧ Low forward voltage drop
- ✧ High current capability
- ✧ Easy pick and place
- ✧ High surge current capability
- ✧ Plastic material used carries Underwriters Laboratory Classification 94V-0
- ✧ High temperature soldering: 260°C / 10 seconds at terminals

Mechanical Data

- ✧ Case: Molded plastic
- ✧ Polarity: Indicated by cathode band
- ✧ Packaging: 12mm tape
- ✧ Weight: 0.084 gram

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	M1	M2	M3	M4	M5	M6	M7	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 @T _L =110 °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	1.1							V
Maximum DC Reverse Current @ T _A =25 °C at Rated DC Blocking Voltage @ T _A =125 °C	I _R	1.0 50							µA µA
Typical Reverse Recovery Time (Note 1)	T _{rr}	1.5							µS
Typical Junction Capacitance (Note 2)	C _j	12							pF
Non-Repetitive Peak Reverse Avalanche Energy at 25°C, I _{AS} =1A, L=10mH	E _{AS}	5							mJ
Typical Thermal Resistance (Note 3)	R _{θJL} R _{θJA}	27 75					30 85		°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: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$
 - Measured at 1 MHz and Applied $V_R=4.0$ Volts
 - Measured on P.C. Board with 0.2" x 0.2" (5.0mm x 5.0mm) Copper Pad Areas.

RATINGS AND CHARACTERISTIC CURVES (M1 THRU M7)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

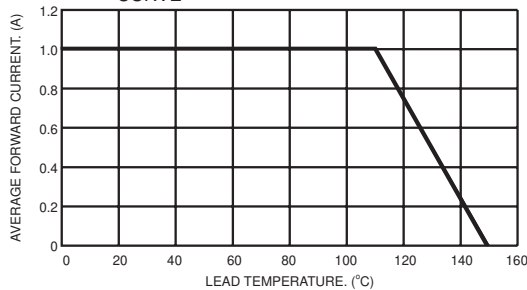


FIG.2- TYPICAL REVERSE CHARACTERISTICS

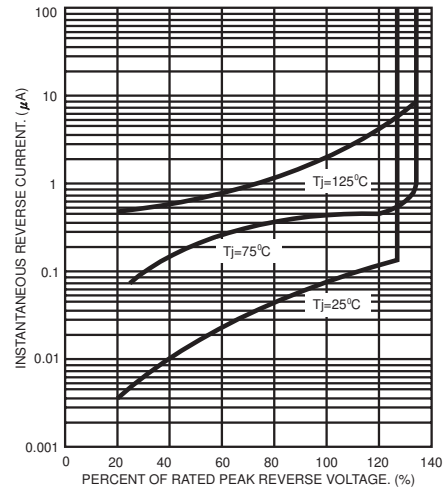


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

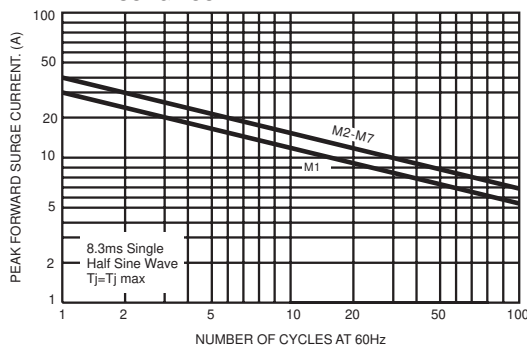


FIG.5- TYPICAL FORWARD CHARACTERISTICS

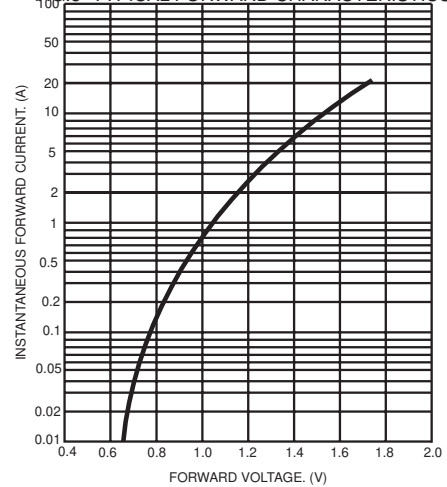


FIG.4- TYPICAL JUNCTION CAPACITANCE

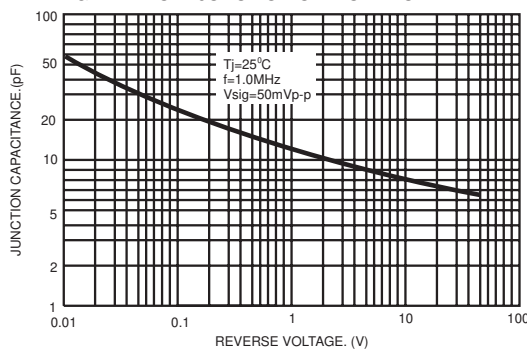
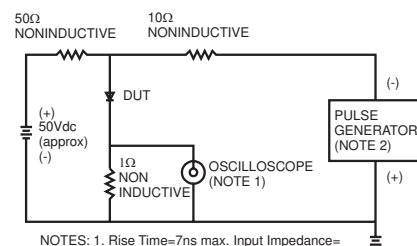


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



NOTES: 1. Rise Time=7ns max. Input Impedance=1 megohm 22pf
2. Rise Time=10ns max. Source Impedance=50 ohms

