TAIWAN SEMICONDUCTOR

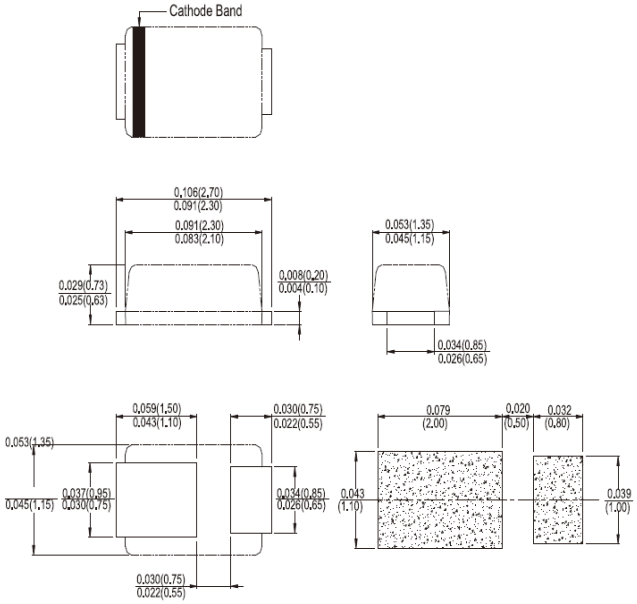
RoHS COMPLIANCE

HALOGEN FREE

SS22M - SS23M

2.0AMPS. Surface Mount Schottky Barrier Rectifiers

Micro SMA



Features

- ✧ Very low profile - typical heigh of 0.68mm
- ✧ Ideal for automated placement
- ✧ Low forward voltage drop. Low power loss.
- ✧ High efficiency
- ✧ Meet MSL level 1, per J-STD-020D , lead free maximum peak of 260℃
- ✧ Solder dip 265℃ max. 10 s, per JESD 22-A111
- ✧ Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC
- ✧ Halogen-free according to IEC 61249-2-21 definition
- ✧ Green compound

Typical Application

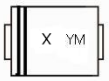
- ✧ For use in low voltage high frequency inverter, freewheeling, DC to DC converter, and polarity protection applications.

Mechanical Data

- ✧ Case: Micro SMA
- ✧ Molding Compound meet UL 94V-0 rate flame flammability rating.
- ✧ Terminals: Matte tin plated leads, solderable per J-STD-002B, and JESD22-B102D
- ✧ Polarity: Indicated by Cathode Band
- ✧ Packaging: 8 mm tape per EIA Std RS-481
- ✧ Weight: 0.006 grams

Dimensions in inches and (millimeters)

Marking Diagram



X =Device Marking Code
Y =Year
M =Work Month

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	SS22M	SS23M	Units
Device Marking Code		D	E	
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	20	30	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	2		A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load	I_{FSM}	25		A
Maximum Instantaneous Forward Voltage (Note 1)	V_F	TYP.	MAX.	V
@ 1.0A / TA=25℃		0.45	-	
@ 2.0A / TA=25℃		0.53	0.60	
@ 1.0A / TA=125℃		0.37	-	
@ 2.0A / TA=125℃		0.50	0.55	
Maximum Reverse Current	I_R	TYP.	MAX.	
@ TA=25 ℃		6	150	uA
@ TA=125 ℃		4	15	mA
Typical Junction Capacitance (Note 2)	Cj	35		pF
Typical Thermal Resistance	$R_{\theta JA}$ $R_{\theta JL}$ $R_{\theta JC}$	105 15 20		^{O}C/W
Operating Temperature Range	T_J	-55 to + 150		^{O}C
Storage Temperature Range	T_{STG}	-55 to + 150		^{O}C

Note1: Pulse Test with PW=300 usec, 1% Duty Cycle

Note2: Measured at 1 MHz and Applied Reverse Voltage of 4.0 V D.C.

TAIWAN SEMICONDUCTOR

RATINGS AND CHARACTERISTIC CURVES (SS22M THRU SS23M)

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

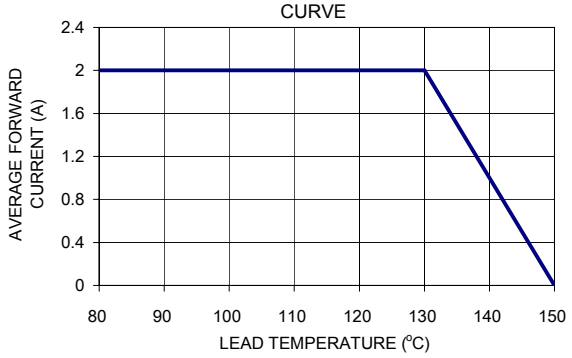


FIG. 2 MAXIMUM FORWARD SURGE CURRENT

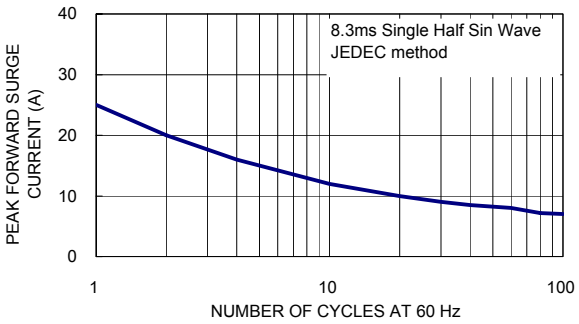


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

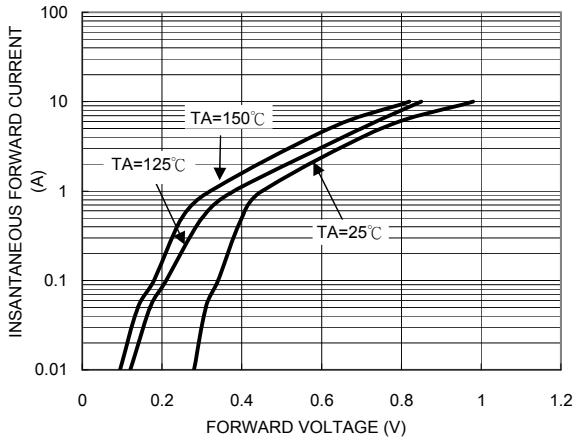


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

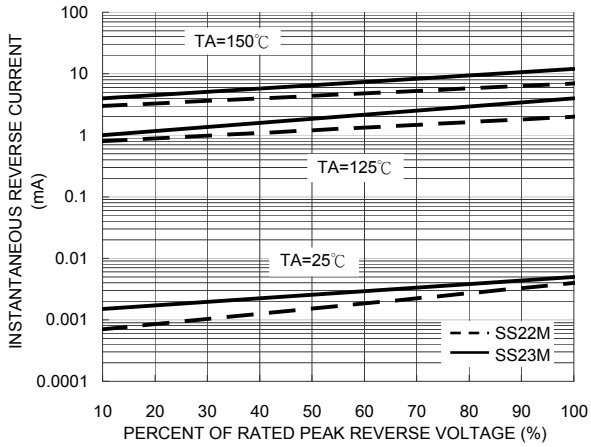


FIG. 5 TYPICAL JUNCTION CAPACITANCE

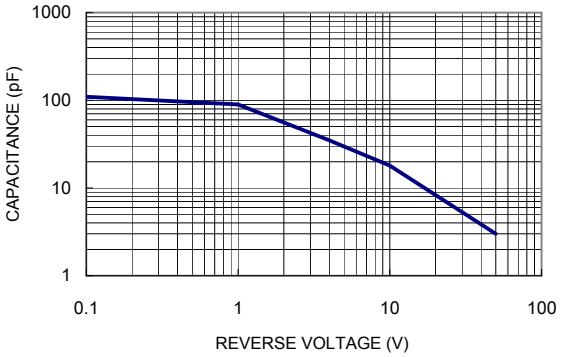
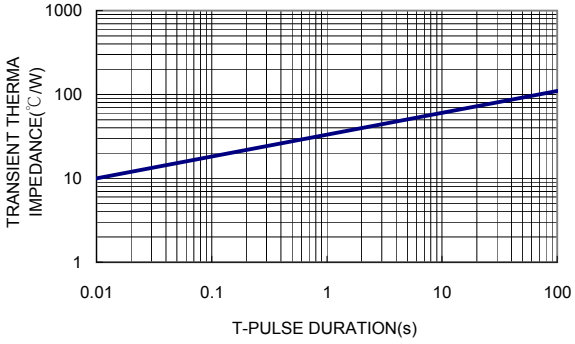


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE



Version:D12