

### Features

- ✧ For surface mounted application
- ✧ Glass passivated chip junction
- ✧ Low forward voltage drop
- ✧ High current capability
- ✧ Easy pick and place
- ✧ High surge current capability
- ✧ Plastic material used carries Underwriters Laboratory Classification 94V-0
- ✧ Meet MSL level 1, per J-STD-020D, lead free maximum peak of 260°C
- ✧ High temperature soldering: 260°C/10 seconds at terminals



### Mechanical Data

- ✧ Case: Molded plastic
- ✧ Terminal: Pure tin plated, lead free solderable per J-STD-002B and JESD22-B102D
- ✧ Polarity: Indicated by cathode band
- ✧ Packing: 8mm tape per EIA STD RS-481
- ✧ Weight: 0.006 grams

### Ordering Information (example)

Part No.	Package	Packing	Green Compound Packing code
S1GM	Mirco-SMA	3K / 7" REEL	RSG

### 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	S1GM	S1JM	Unit
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	400	600	V
Maximum RMS Voltage	$V_{RMS}$	280	420	V
Maximum DC Blocking Voltage	$V_{DC}$	400	600	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	1		A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	$I_{FSM}$	20		A
Maximum Instantaneous Forward Voltage (Note 1) @ 1 A	$V_F$	1.1		V
Maximum Reverse Current @ Rated VR $T_A=25\text{ }^\circ\text{C}$ $T_A=125\text{ }^\circ\text{C}$	$I_R$	1 50		uA
Typical Reverse Recovery Time (Note 2)	$T_{rr}$	780		nS
Typical Junction Capacitance (Note 3)	$C_j$	5		pF
Typical Thermal Resistance	$R_{\theta JA}$ $R_{\theta JL}$	110 30		$^\circ\text{C/W}$
Operating Temperature Range	$T_J$	- 55 to + 175		$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	- 55 to + 175		$^\circ\text{C}$

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

Note 2: Reverse Recovery Test Conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{RR}=0.25\text{A}$

Note 3: Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.

Version:B12

RATINGS AND CHARACTERISTIC CURVES (S1GM THRU S1JM)

FIG.1 FORWARD CURRENT DERATING CURVE

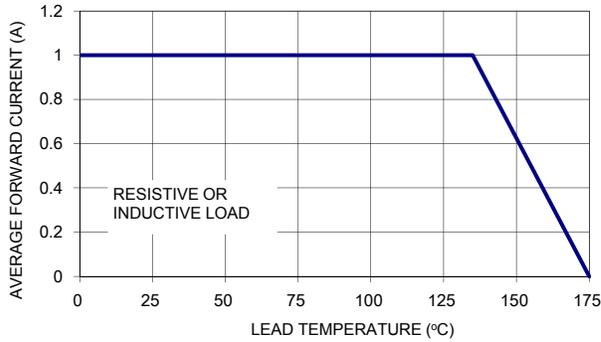


FIG. 2 TYPICAL REVERSE CHARACTERISTICS

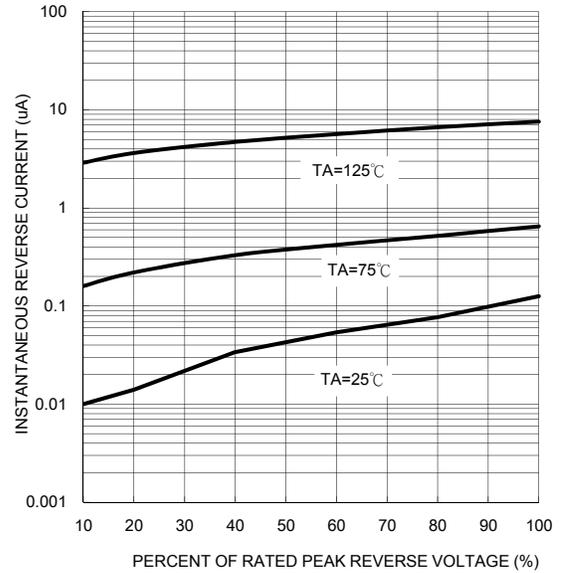


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

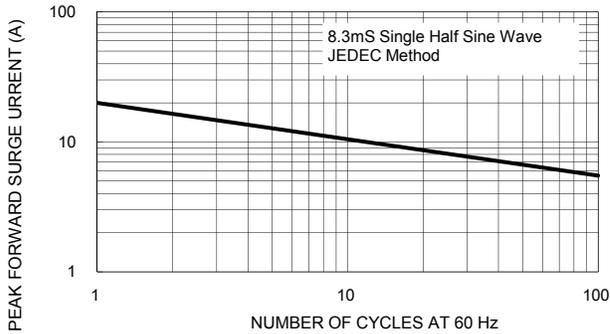


FIG. 5 TYPICAL FORWARD CHARACTERISTICS

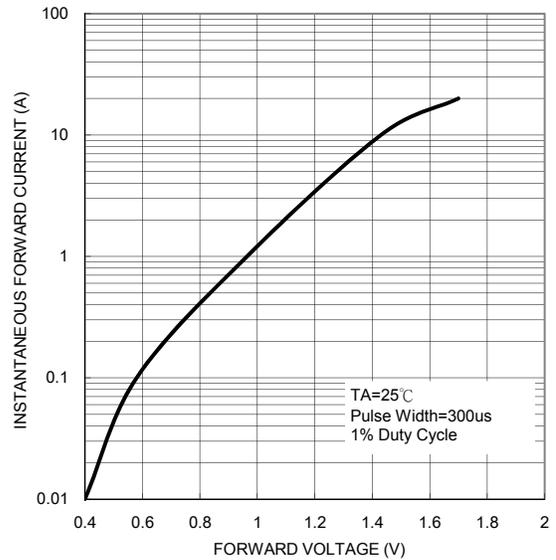


FIG. 4 TYPICAL JUNCTION CAPACITANCE

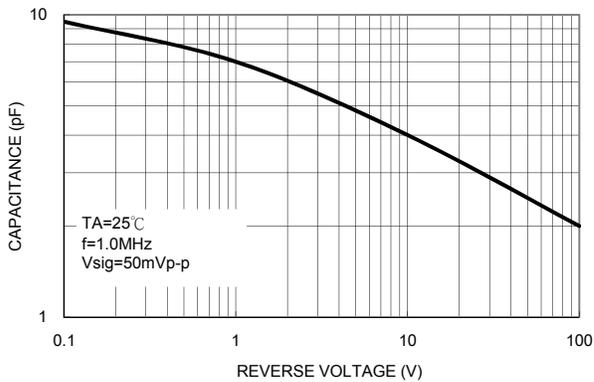
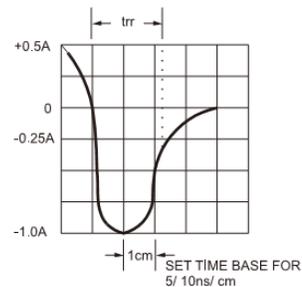
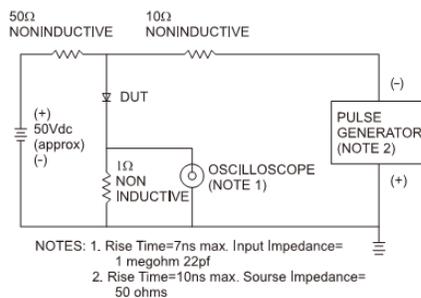


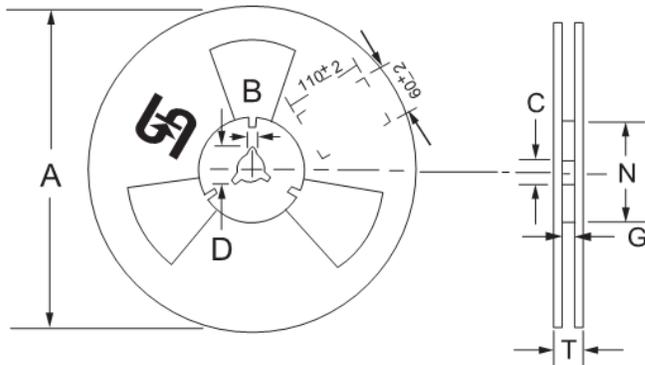
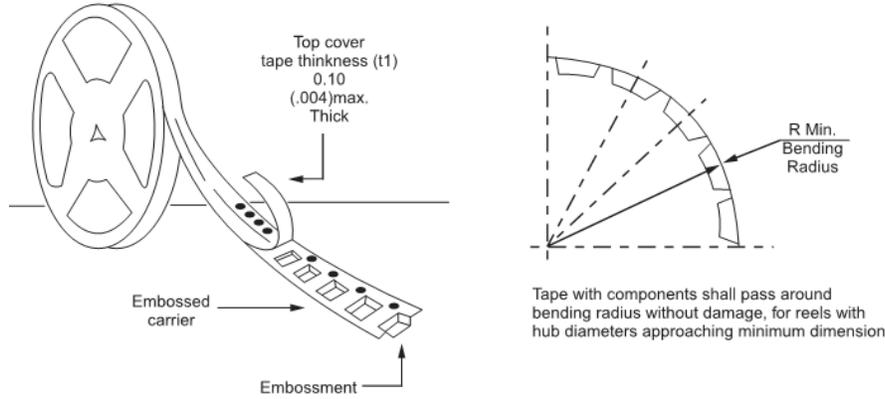
FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



**Ordering information**

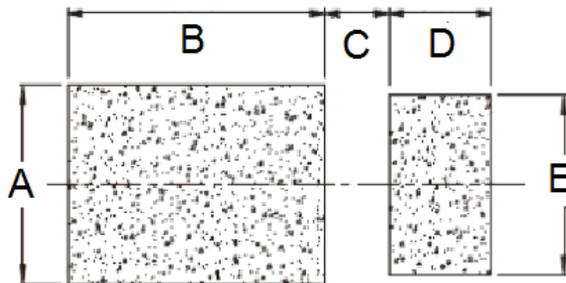
Part No.	Package	Packing	Green Compound Packing code
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**Tape & Reel specification**



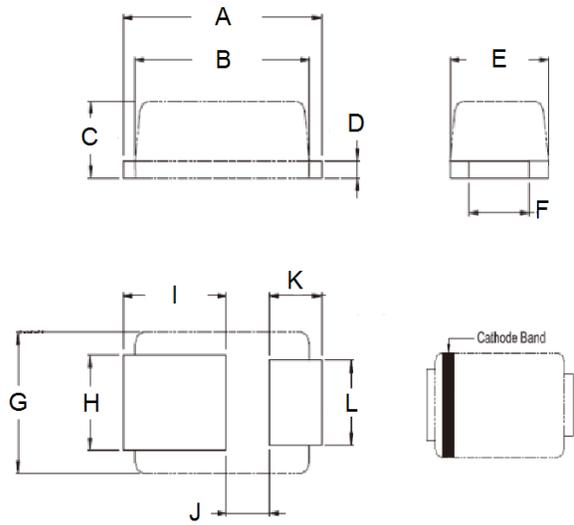
Symbol	Dimension (mm)	
A	178	±2
B	1.9	±0.4
C	13	+0.5/-0.2
D	21	MIN
N	62	±1.0
G	8.2	+0.8/-0
T	10.6	MAX

**Suggested PAD Layout**



Symbol	Unit(inch)	Unit(mm)
A	0.043	1.1
B	0.079	2
C	0.02	0.5
D	0.032	0.8
E	0.039	1

### Package Outline Dimensions



DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	2.30	2.70	0.091	0.106
B	2.10	2.30	0.083	0.091
C	0.63	0.73	0.025	0.029
D	0.10	0.20	0.004	0.008
E	1.15	1.35	0.045	0.053
F	0.65	0.85	0.026	0.034
G	1.15	1.35	0.045	0.053
H	0.75	0.95	0.030	0.037
I	1.10	1.50	0.043	0.059
J	0.55	0.75	0.022	0.030
K	0.55	0.75	0.022	0.030
L	0.65	0.85	0.026	0.034

### Marking Diagram



P =Device Name Code  
 YW =Date Code