SS1A THRU SS1M

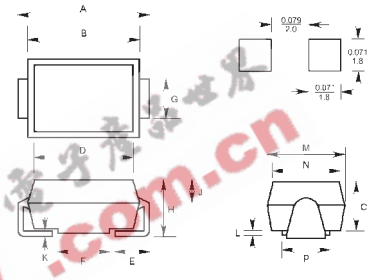
SURFACE MOUNT SUPER FAST RECOVERY RECTIFIER

Reverse Voltage - 50 to 1000 Volts
Forward Current - 1.0 Ampere

Features

- For surface mounted applications
- Low profile package
- Built-in strain relief
- Easy pick and place
- Superfast recovery times for high efficiency
- Plastic package has Underwriters Laboratory Flammability classification 94V-0
- High temperature soldering: 260℃/10 seconds at terminals

SMA



DIMENSIONS					
DIM	inches		mm		Note
	Min.	Max.	Min.	Max.	
A	0.216	0.226	5.48	5.74	
B	0.176	0.182	4.48	4.63	
C	0.094	0.100	2.40	2.55	
D	0.170	0.176	4.33	4.48	
E	0.039	0.055	1.00	1.40	
F	0.080	0.081	2.03	2.07	
G	0.068	0.083	1.72	2.10	
H	0.112	0.118	2.85	3.00	
J	0.057	-	1.44	-	
K	-	0.018	-	0.45	
L	0.016	-	0.40	-	
M	0.109	0.115	2.77	2.93	
N	0.105	0.107	2.67	2.73	
P	0.078	0.081	2.00	2.05	

Mechanical Data

- **Case:** SMA Molded plastic
- **Terminals:** Solder plated solderable per MIL-STD-750, method 2026
- **Polarity:** Indicated by cathode band
- **Weight:** 0.004 ounce, 0.11 gram

Maximum Ratings and Electrical Characteristics

Ratings at 25℃ ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	Symbols	SS1A	SS1B	SS1C	SS1D	SS1E	SS1G	SS1J	SS1K	SS1M	Units
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	150	200	300	400	600	800	1000	Volts
Maximum RMS voltage	V_{RMS}	35	70	105	140	210	280	420	560	700	Volts
Maximum DC blocking voltage	V_{DC}	50	100	150	200	300	400	600	800	1000	Volts
Maximum average forward rectified current at T_L=100℃	$I_{(AV)}$	1.0									Amp
Peak forward surge current, 8.3mS single half sine-wave superimposed on rated load (MIL-STD-750D 4066 method)	I_{FSM}	30.0									Amps
Maximum instantaneous forward voltage at 1.0A	V_F	0.95				1.25		1.40			Volts
Maximum DC reverse current at rated DC blocking voltage T_A=25℃ / T_A=100℃	I_R	5.0 / 500.0									μA
Maximum reverse recovery time (Note 1)	T_{rr}	35.0									nS
Typical junction capacitance (Note 2)	C_J	10.0									pF
Typical thermal resistance (Note 3)	$R_{\theta JL}$	35.0									℃/W
Operating and storage temperature range	T_J, T_{STG}	-50 to +150									℃

Notes:

(1) Reverse recovery test conditions: I_F=0.5A, I_R=1.0A, I_{rr}=0.25A
(2) Measured at 1.0MHz and applied reverse voltage of 4.0 volts
(3) 8mm² (0.013mm thick) land areas

RATINGS AND CHARACTERISTIC CURVES

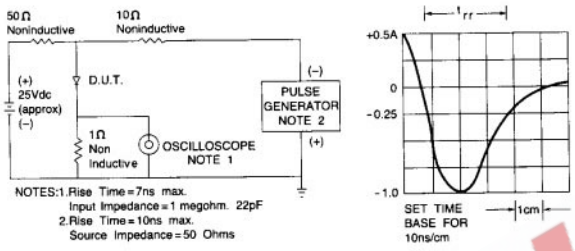


Fig. 1 – REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM ES1A THRU ES1G

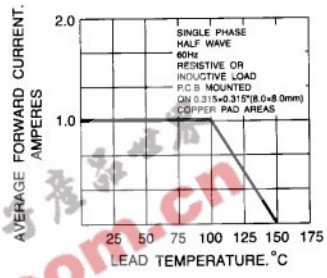


Fig. 2 – MAXIMUM AVERAGE FORWARD CURRENT RATING

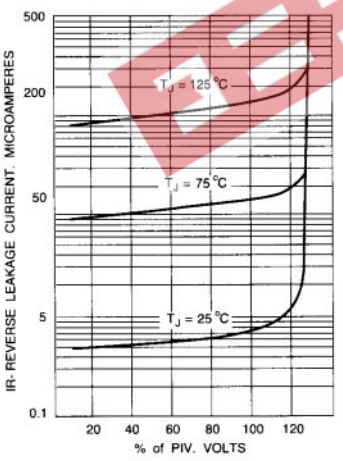


Fig. 3 – TYPICAL REVERSE CHARACTERISTICS

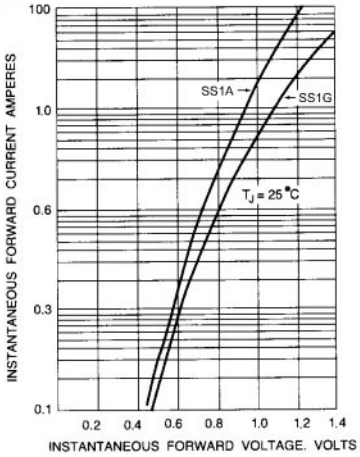


Fig. 4 – TYPICAL JUNCTION CAPACITANCE

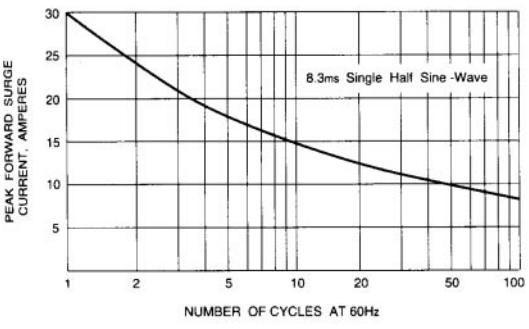


Fig. 5 – MAXIMUM NON-REPETITIVE SURGE CURRENT

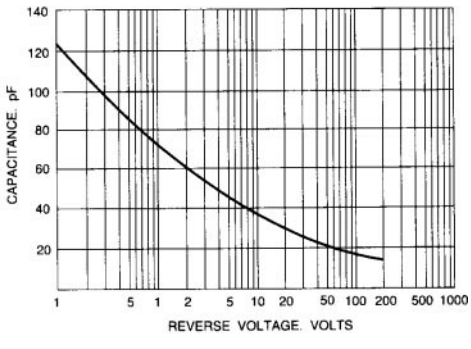


Fig. 6 – TYPICAL JUNCTION CAPACITANCE