ES1A THRU ES1J

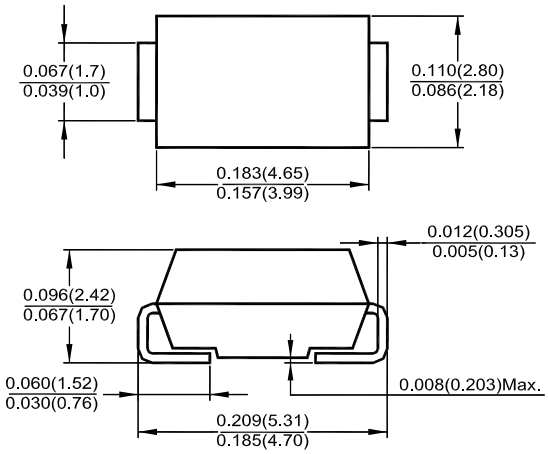
SURFACE MOUNT SUPERFAST RECOVERY RECTIFIER

Reverse Voltage – 50 to 600 V
Forward Current – 1 A

Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- Easy pick and place
- For surface mounted applications
- Low profile package
- Built-in strain relief
- Superfast recovery times for high efficiency

SMA (DO-214AC)



Dimensions in inches and (millimeters)

Mechanical Data

- **Case:** SMA (DO-214AC), molded plastic
- **Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026 guaranteed
- **Polarity:** Color band denotes cathode end

Absolute Maximum Ratings and Characteristics

Ratings 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%.

Parameter	Symbols	ES1A	ES1B	ES1C	ES1D	ES1E	ES1G	ES1J	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	150	200	300	400	600	V
Maximum RMS Voltage	V_{RMS}	35	70	105	140	210	280	420	V
Maximum DC Blocking Voltage	V_{DC}	50	100	150	200	300	400	600	V
Maximum Average Forward Rectified Current T_L= 100°C	$I_{F(AV)}$	1							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	30							A
Maximum Forward Voltage at 1 A	V_F	0.95				1.25		1.7	V
Maximum Reverse Current at T_A = 25 °C at Rated DC Blocking Voltage at T_A = 100 °C	I_R I_R	5 100							µA
Typical Junction Capacitance at V_R = 4 V, f = 1 MH_Z	C_J	10							pF
Typical Reverse Recovery Time at I_F = 0.5 A, I_R = 1 A, I_{rr} = 0.25 A	t_{rr}	35						50	ns
Typical Thermal Resistance [1]	$R_{\theta JL}$	35							°C/W
Operating Junction and Storage Temperature Range	T_J ,T_S	- 55 to + 150							°C

[1] Thermal resistance from junction to lead mounted on P.C.B. with 0.3 X 0.3" (8.0 X 8.0 mm) copper pad areas.

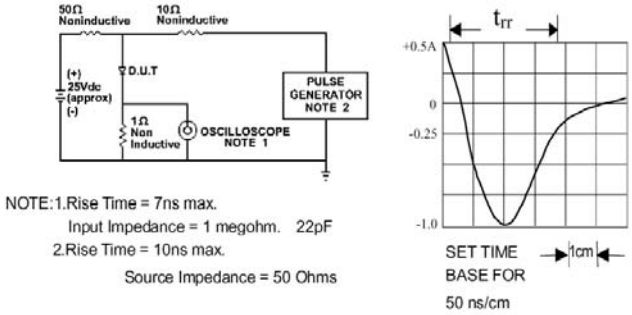


Fig. 1-REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

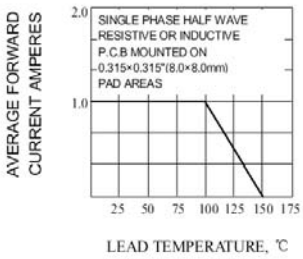


Fig. 2-MAXIMUM AVERAGE FORWARD CURRENT RATING

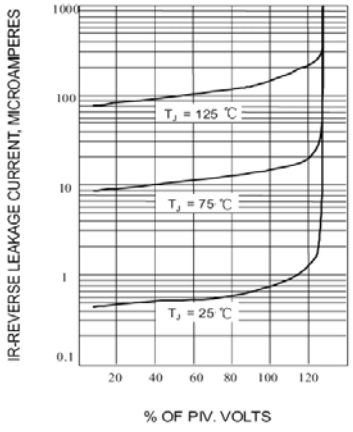


Fig. 3-TYPICAL REVERSE CHARACTERISTICS

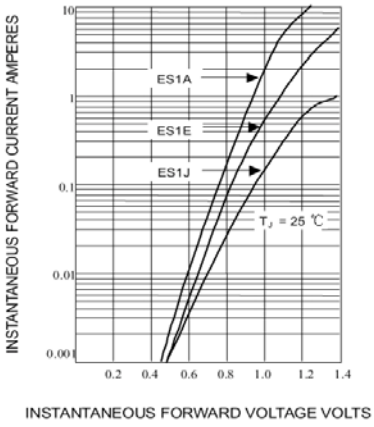


Fig. 4-TYPICAL FORWARD CHARACTERISTICS

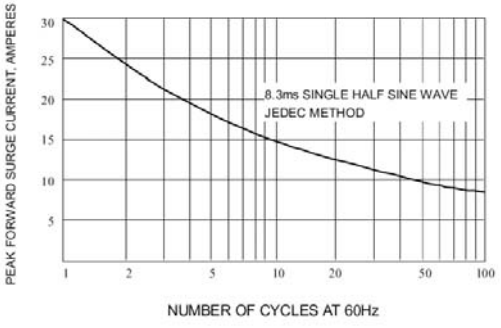


Fig. 5-MAXIMUM NON-REPETITIVE SURGE CURRENT

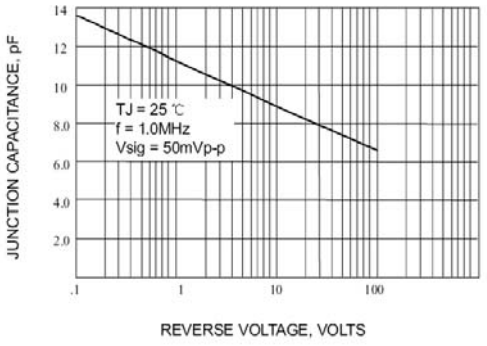


Fig. 6-TYPICAL JUNCTION CAPACITANCE