ES1A THRU ES1J

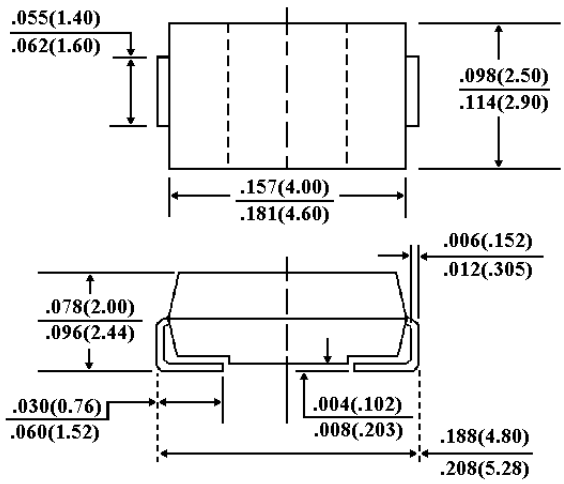
SURFACE MOUNT SUPERFAST RECTIFIER

VOLTAGE - 50 to 600 Volts 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-O
- Glass passivated junction
- High temperature soldering: 260 ¢J/10 seconds at terminals

SMA/DO-214AC



Dimensions in inches and (millimeters)

MECHANICAL DATA

Case: JEDEC DO-214AC molded plastic

Terminals: Solder plated, solderable per MIL-STD-750, Method 2026

Polarity: Indicated by cathode band

Standard packaging: 12mm tape (EIA-481)

Weight: 0.002 ounce, 0.064 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 ¢J ambient temperature unless otherwise specified.

Single phase, half wave 60Hz resistive or inductive load.

For capacitive load, derate current by 20%.

	SYMBOLS	ES1A	ES1B	ES1C	ES1D	ES1E	ES1G	ES1J	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	150	200	300	400	600	Volts
Maximum RMS Voltage	V_{RMS}	35	70	105	140	210	280	420	Volts
Maximum DC Blocking Voltage	V_{DC}	50	100	150	200	300	400	600	Volts
Maximum Average Forward Rectified Current, at T_L=120 ¢J	$I_{(AV)}$	1.0							Amps
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load(JEDEC method)	I_{FSM}	30.0							Amps
Maximum Instantaneous Forward Voltage at 1.0A	V_F	0.95				1.25		1.7	Volts
Maximum DC Reverse Current T_A=25 ¢J At Rated DC Blocking Voltage T_A=100 ¢J	I_R	5.0 100							£g A
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 £KJL	35							¢J/W
Operating and Storage Temperature Range	T_J,T_{STG}	-50 to +150							¢J

NOTES:

1. Reverse Recovery Test Conditions: I_F=0.5A, I_R=1.0A, Irr=0.25A
2. Measured at 1 MHz and Applied reverse voltage of 4.0 volts
3. 8.0mm^2 (.013mm thick) land areas

RATING AND CHARACTERISTIC CURVES

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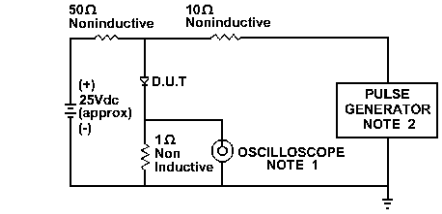

NOTE:1.Rise Time = 7ns max.
Input Impedance = 1 megohm. 22pF
2.Rise Time = 10ns max.
Source Impedance = 50 Ohms

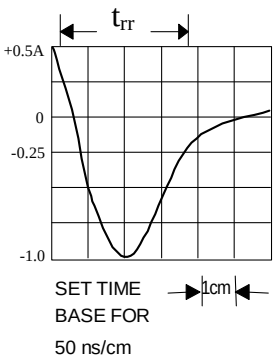

Fig. 1-REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

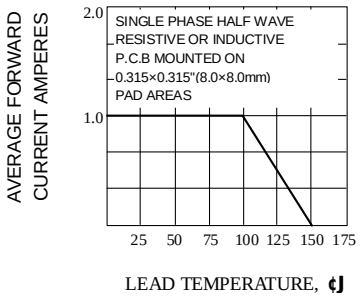

Fig. 2-MAXIMUM AVERAGE FORWARD CURRENT RATING

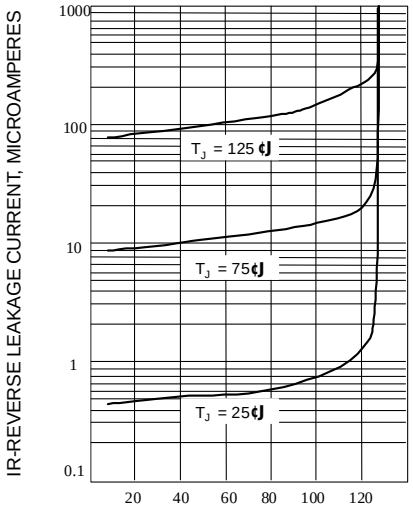

Fig. 3-TYPICAL REVERSE CHARACTERISTICS

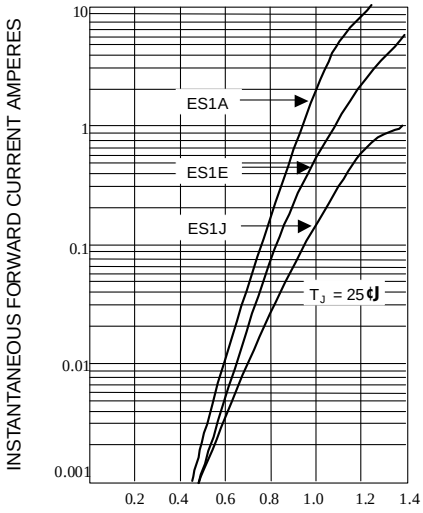

Fig. 4-TYPICAL FORWARD CHARACTERISTICS

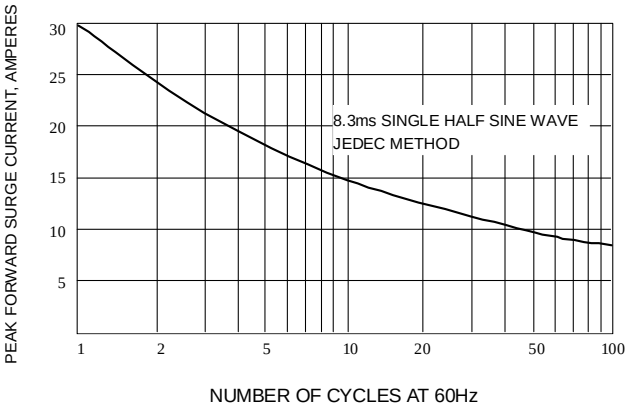

Fig. 5-MAXIMUM NON-REPETITIVE SURGE CURRENT

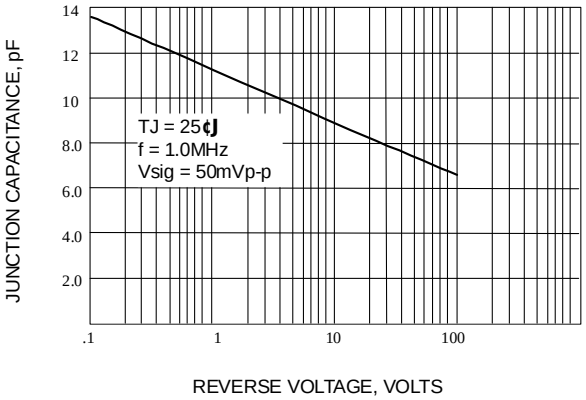

Fig. 6-TYPICAL JUNCTION CAPACITANCE