

# 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 °C/10 seconds at terminals

### MECHANICAL DATA

Case: JEDEC DO-214AC molded plastic

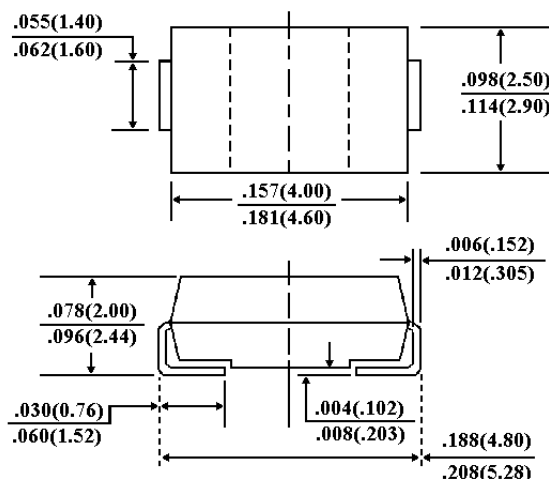
Terminals: Solder plated, solderable per  
MIL-STD-750, Method 2026

Polarity: Indicated by cathode band

Standard packaging: 12mm tape (EIA-481)

Weight: 0.002 ounce, 0.064 gram

### SMA/DO-214AC



Dimensions in inches and (millimeters)

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C 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 $T_L=120$ °C	$I_{(AV)}$	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 $T_A=25$ °C	$I_R$	5.0							µg A
At Rated DC Blocking Voltage $T_A=100$ °C		100							
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)	$R_{\theta JKJL}$	35							°C/W
Operating and Storage Temperature Range	$T_J, T_{STG}$	-50 to +150							°C

### NOTES:

1. Reverse Recovery Test Conditions:  $I_F=0.5A$ ,  $I_R=1.0A$ ,  $I_{rr}=0.25A$
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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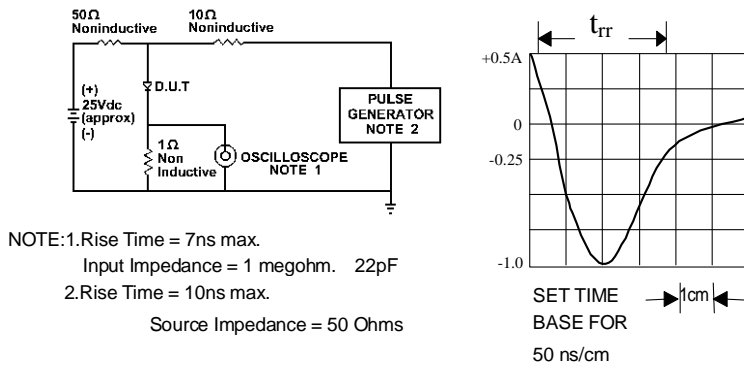


Fig. 1-REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

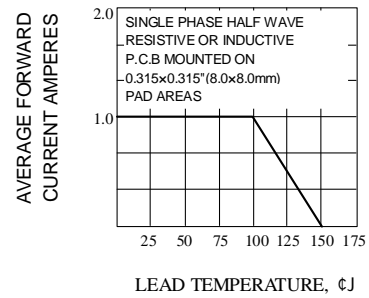


Fig. 2-MAXIMUM AVERAGE FORWARD CURRENT RATING

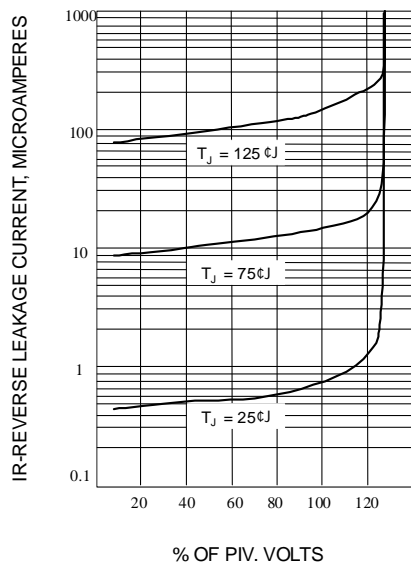


Fig. 3-TYPICAL REVERSE CHARACTERISTICS

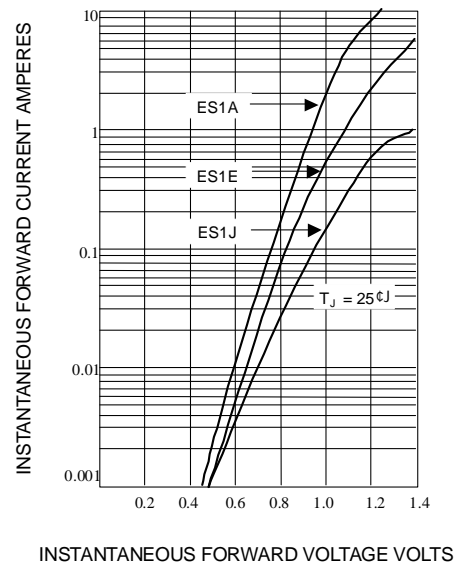


Fig. 4-TYPICAL FORWARD CHARACTERISTICS

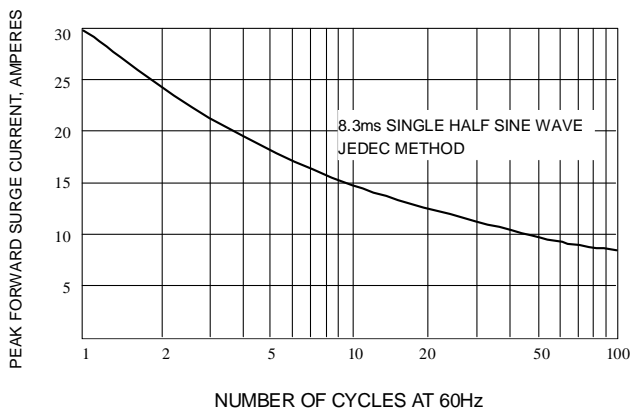


Fig. 5-MAXIMUM NON-REPETITIVE SURGE CURRENT

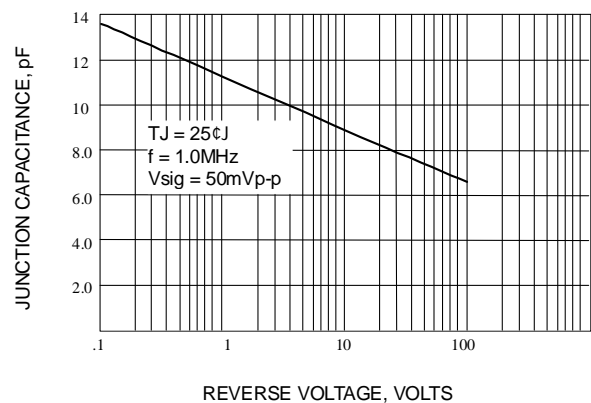


Fig. 6-TYPICAL JUNCTION CAPACITANCE