

## ES1A THRU ES1J

**SURFACE MOUNT SUPERFAST RECTIFIER**  
**VOLTAGE - 50 - 600 Volts    CURRENT - 1.0 Ampere**

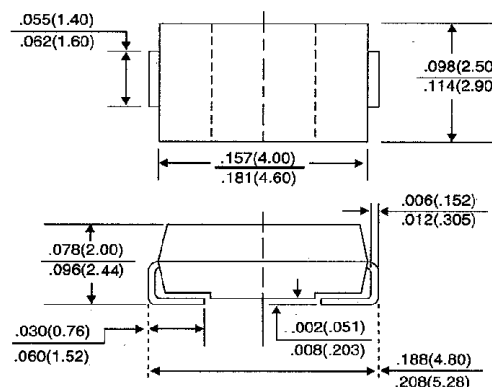
### FEATURES

- 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 ounces, 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, 60 Hz, 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 <sub>RRM</sub>	50	100	150	200	300	400	600	Volts
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	105	140	210	280	420	Volts
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	150	200	300	400	600	Volts
Maximum Average Forward Rectified Current at T <sub>L</sub> = 120°C	I <sub(av)< sub=""></sub(av)<>	1.0							Amps
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	30.0							Amps
Maximum Instantaneous Forward Voltage at 1.0A	V <sub>F</sub>	0.95			1.25		1.7		Volts
Maximum DC Reverse Current T <sub>A</sub> = 25°C at Rated DC Blocking Voltage T <sub>A</sub> = 100°C	I <sub>R</sub>	5.0 100							μA
Maximum Reverse Recovery Time (NOTE 1)	T <sub>RR</sub>	35.0							Ns
Typical Junction Capacitance (NOTE 2)	C <sub>J</sub>	10.0							pf
Typical Thermal Resistance (NOTE 3)	RθJL	35							°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-50 to +150							°C

**NOTES:**

1. Reverse Recovery Test Conditions: I<sub>F</sub> = 0.5A, I<sub>R</sub> = 1.0A, I<sub>rr</sub> = 0.25A.
2. Measured at 1.0 MHz and applied reverse voltage of 4.0 volts.
3. 8.0mm<sup>2</sup> (.013mm thick) land areas.

## RATING AND CHARACTERISTIC CURVES ES1A THRU ES1J

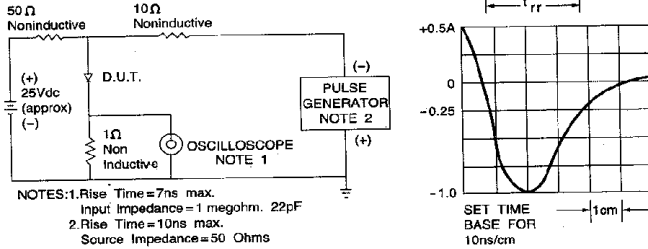


Fig. 1 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM ES1A THRU ES1J

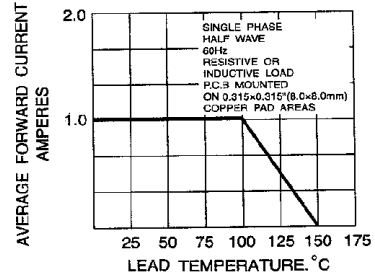


Fig. 2 - MAXIMUM AVERAGE FORWARD CURRENT RATING

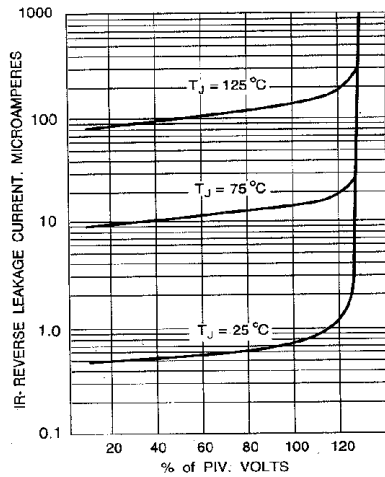


Fig. 3 - TYPICAL REVERSE CHARACTERISTICS

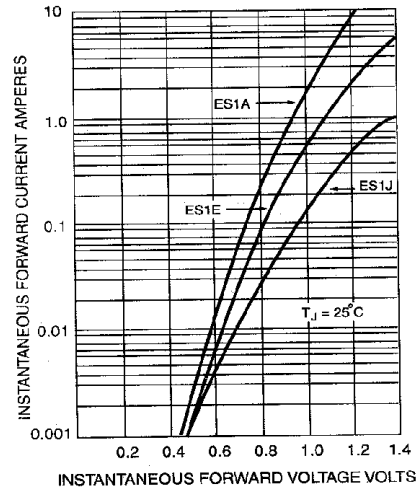


Fig. 4 - TYPICAL FORWARD CHARACTERISTICS

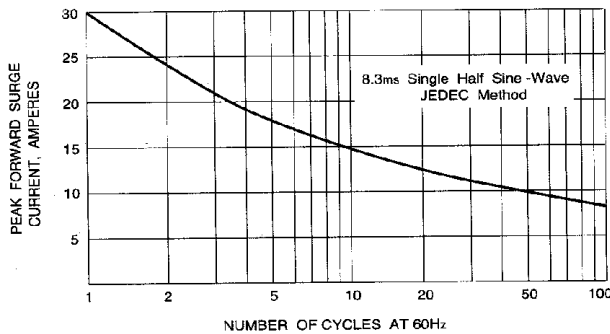


Fig. 5 - MAXIMUM NON-REPETITIVE SURGE CURRENT

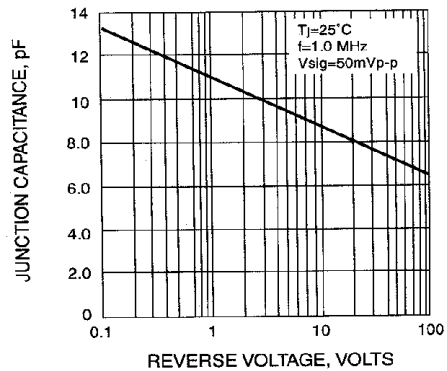


Fig. 6 - TYPICAL JUNCTION CAPACITANCE