

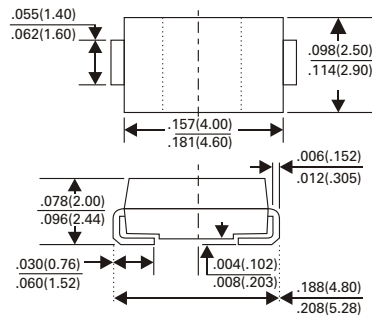
# ES1A thru ES1J

## SURFACE MOUNT SUPERFAST RECTIFIER

VOLTAGE 50 TO 600 VOLTS CURRENT - 1.0 AMPERES



SMA/DO-214AC



Dimensions in inches and (millimeters)

### FEATURES

- For surface mount 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
- Glass passivated junction
- High temperature soldering : 260°C/10seconds at terminals
- Pb free product are available : 99% Sn above can meet RoHS Environment substance directive request

### 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 : 16mm tape (EIA-481)  
 Weight : 0.002ounce, 0.064grams

### 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%

	SYMBOL	ES1A	ES1B	ES1C	ES1D	ES1E	ES1G	ES1J	UNITS
Maximum Repetitive 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 @ $T_L = 120^\circ\text{C}$	$I_{(AV)}$	1.0							Amps
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method)	$I_{FSM}$	30							Amps
Maximum Instantaneous Forward Voltage at 1.0A	$V_F$	0.95			1.3		1.7		Volts
Maximum DC Reverse Current @ $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A = 100^\circ\text{C}$	$I_R$	5 100							$\mu\text{A}$
Maximum Reverse Recovery Time (NOTE 1)	$T_{RR}$	35							nS
Typical Junction Capacitance (NOTE 2)	$C_J$	10							pF
Typical Thermal Resistance (NOTE 3)	$R_{\theta JA}$	35							$^\circ\text{C} / \text{W}$
Operating and Storage Temperature Range	$T_J$ $T_{STG}$	-55 to +150							$^\circ\text{C}$

NOTES :

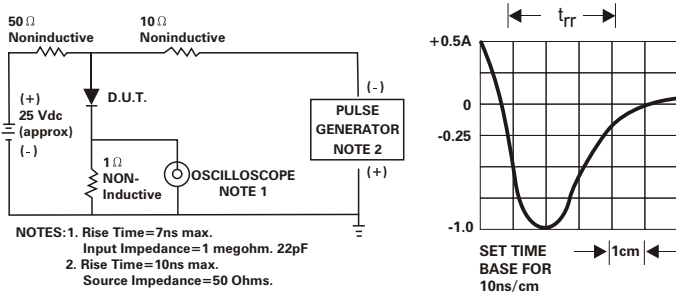
1. Reverse Recovery Test Conditions  $I_F = 0.5\text{A}$ ,  $I_R = 1.0\text{A}$ ,  $I_{RR} = 0.25\text{A}$
2. Measured at 1 MHz and applied reverse Voltage of 4.0VDC
3.  $8.0\text{mm}^2$  (.013mm thick) land areas

# ES1A thru ES1J

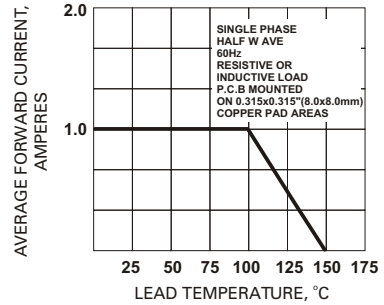
## SURFACE MOUNT SUPERFAST RECTIFIER

### RATING AND CHARACTERISTICS CURVES ES1A THRU ES1J

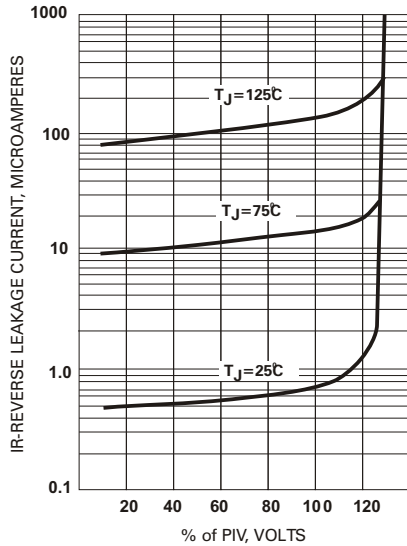
**Fig. 1 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM ES1A THRU ES1G**



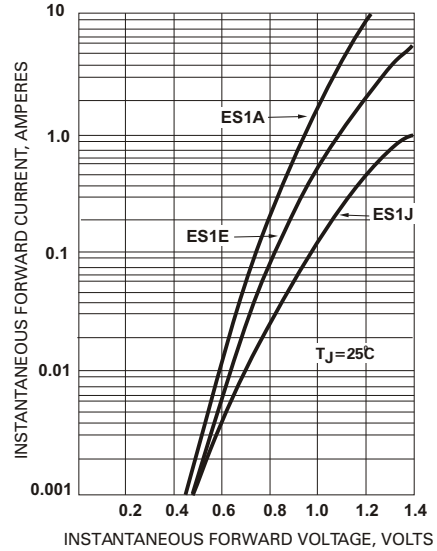
**Fig. 2 - MAXIMUM AVERAGE FORWARD CURRENT RATING**



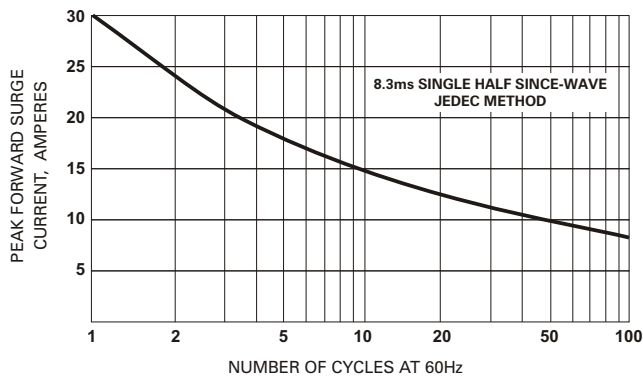
**Fig. 3 - TYPICAL REVERSE CHARACTERISTICS**



**Fig. 4 - TYPICAL FORWARD CHARACTERISTICS**



**Fig. 5 - MAXIMUM NON-REPETITIVE SURGE CURRENT**



**Fig. 6 - TYPICAL JUNCTION CAPACITANCE**

