



*DC COMPONENTS CO., LTD.*

RECTIFIER SPECIALISTS

ES1A  
THRU  
ES1J

**TECHNICAL SPECIFICATIONS OF SURFACE MOUNT SUPER FAST RECTIFIER**

**VOLTAGE RANGE 50 to 600 Volts**

**CURRENT 1.0 Ampere**

**FEATURES**

- \* Ideal for surface mounted applications
- \* Low leakage current
- \* Glass passivated junction

**MECHANICAL DATA**

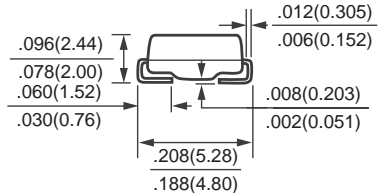
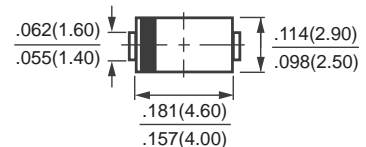
- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- \* Polarity: As marked
- \* Mounting position: Any
- \* Weight: 0.064 gram

**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%.



SMA(DO-214AC)



Dimensions in inches and (millimeters)

	SYMBOL	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>A</sub> = 55°C	I <sub>O</sub>	1.0							Amps	
Peak Forward Surge Current I <sub>FM</sub> (surge): 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I <sub>FSM</sub>	30							Amps	
Maximum Forward Voltage at 1.0A DC	V <sub>F</sub>	0.95			1.25		1.7		Volts	
Maximum DC Reverse Current at Rated DC Blocking Voltage	I <sub>R</sub>	@T <sub>A</sub> = 25°C							μAmps	
		@T <sub>A</sub> = 100°C								
Maximum Reverse Recovery Time (Note 1)	t <sub>rr</sub>	35							nSec	
Typical Junction Capacitance (Note 2)	C <sub>J</sub>	15				10				pF
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +175							°C	

NOTES : 1. 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.

# RATING AND CHARACTERISTIC CURVES (ES1A THRU ES1J)

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

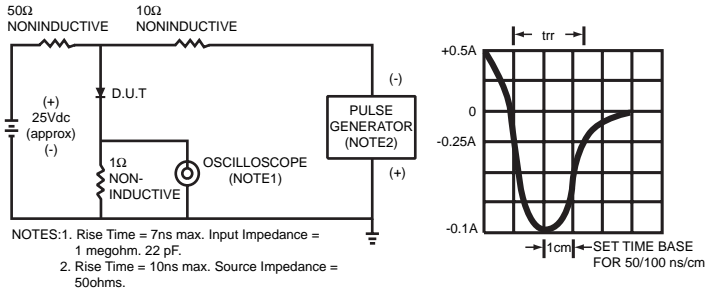


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

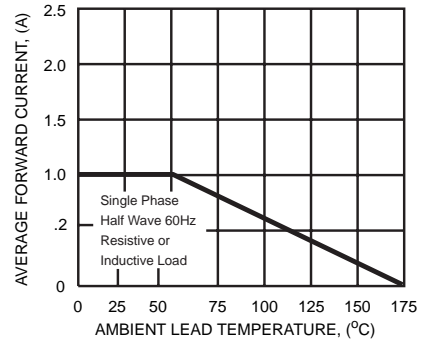


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

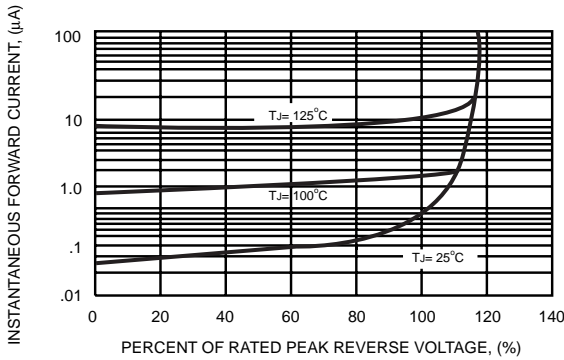


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

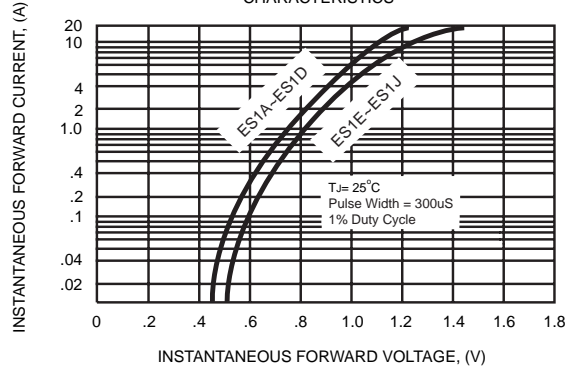


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

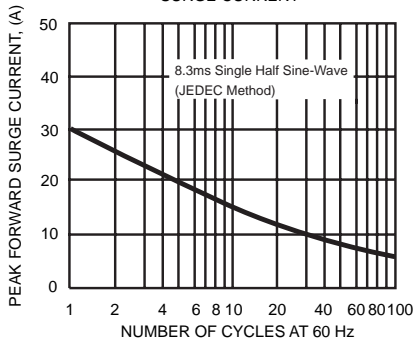
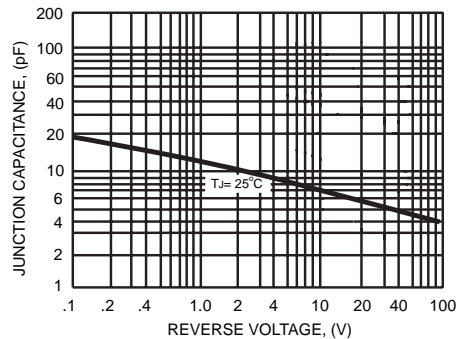


FIG. 6 - TYPICAL JUNCTION CAPACITANCE



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