



**DC COMPONENTS CO., LTD.**

RECTIFIER SPECIALISTS

**ES1A  
THRU  
ES1G**

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

**VOLTAGE RANGE - 50 to 400 Volts**

**CURRENT - 1.0 Ampere**

**FEATURES**

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

**MECHANICAL DATA**

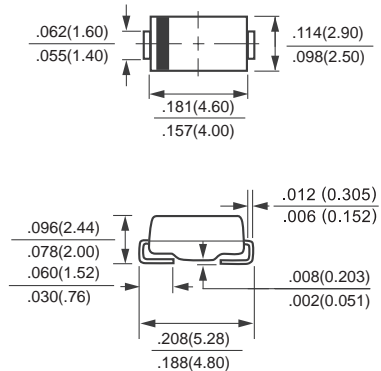
- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Terminals: Solder plated solderable per MIL-STD-750, Method 2026
- \* Polarity: As marked
- \* Mounting position: Any
- \* Weight: 0.064 gram

**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)**



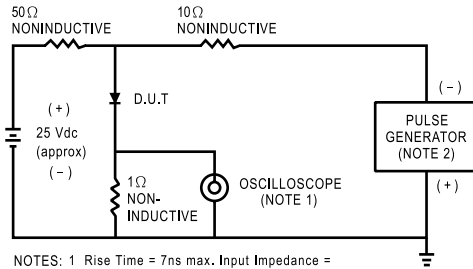
Dimensions in inches and (millimeters)

|  | SYMBOL                            | ES1A         | ES1B | ES1C | ES1D | ES1E | ES1G  | UNITS |
|--|-----------------------------------|--------------|------|------|------|------|-------|-------|
| Maximum Recurrent Peak Reverse Voltage   | V <sub>RRM</sub>                  | 50           | 100  | 150  | 200  | 300  | 400   | Volts |
| Maximum RMS Volts  | V <sub>RMS</sub>                  | 35           | 70   | 105  | 140  | 210  | 280   | Volts |
| Maximum DC Blocking Voltage  | V <sub>DC</sub>                   | 50           | 100  | 150  | 200  | 300  | 400   | Volts |
| Maximum Average Forward Current at TA = 55°C   | I <sub>O</sub>                    | 1.0          |      |      |      |      |       | Amps  |
| Peak Forward Surge Current IFM (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 |      |       | Volts |
| Maximum DC Reverse Current at Rated DC Blocking Voltage  | I <sub>R</sub>                    | @ TA = 25°C  | 5.0  |      |      |      | uAmps |       |
|  |                                   | @ TA = 100°C | 100  |      |      |      |       |       |
| 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 MHz and applied reverse voltage of 4.0 volts.

# RATING AND CHARACTERISTIC CURVES (ES1A THRU ES1G)

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



NOTES: 1 Rise Time = 7ns max. Input Impedance = 1 megohm, 22 pF.  
2. Rise Time = 10ns max. Source Impedance = 50 ohms.

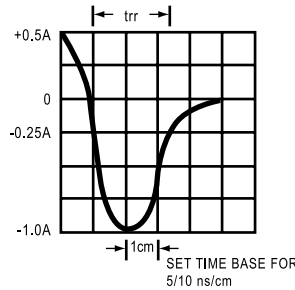


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

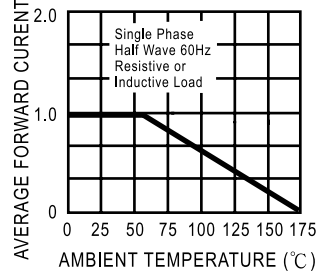


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

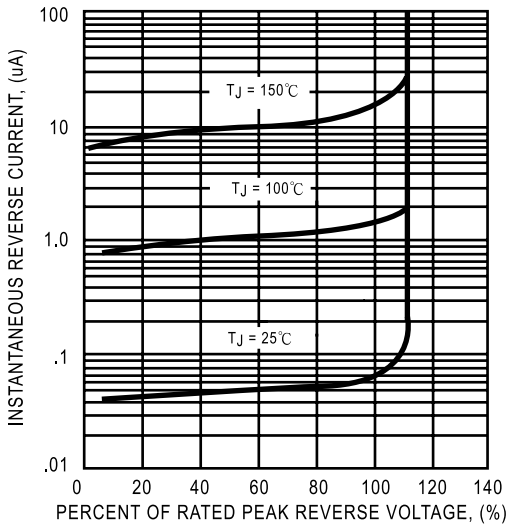


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

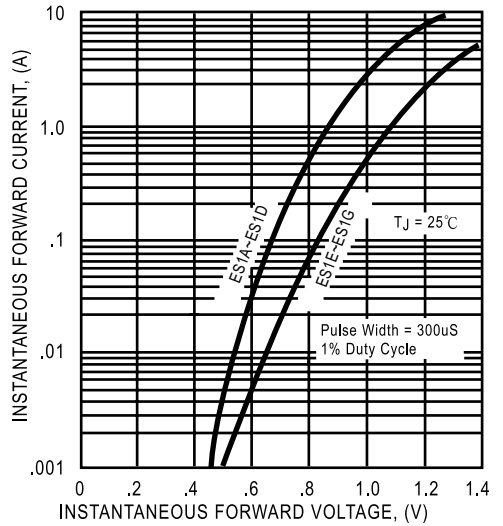


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

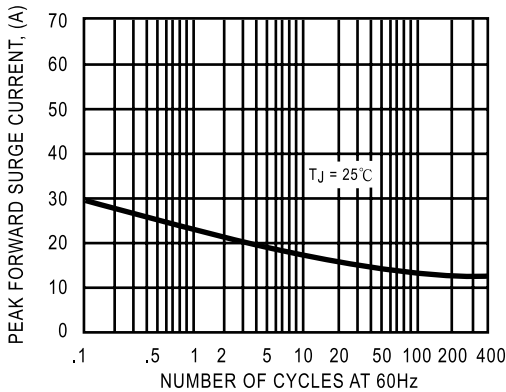
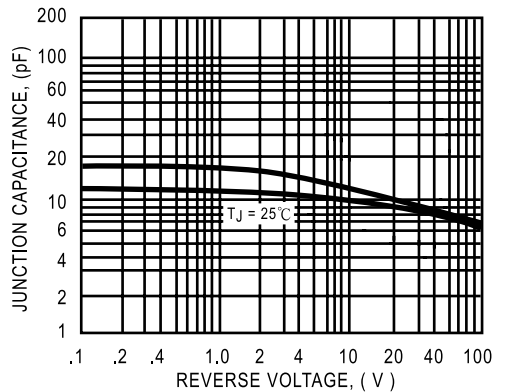


FIG. 6 - TYPICAL JUNCTION CAPACITANCE



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