

SUPERFAST RECOVERY RECTIFIERS

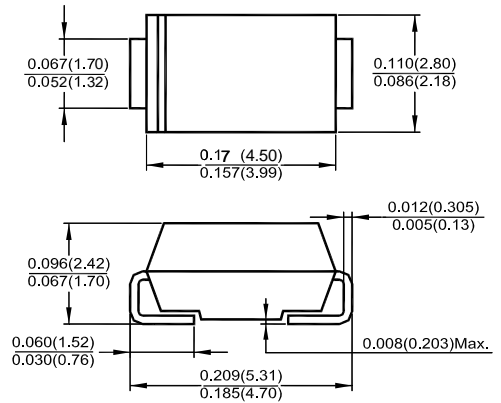
FEATURES

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- Easy pick and place
- For surface mounted applications
- Low profile package
- Built-in strain relief
- Superfast recovery times for high efficiency

MECHANICAL DATA

- SMA (DO-214AC) molded plastic
- Polarity: Color band denotes cathode end

ES1A---ES1J



Dimensions in inches and (millimeters)
DO-214AC (SMA)

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%.

| Parameter | Symbols | ES1A | ES1B | ES1C | ES1D | ES1E | ES1G | ES1J | Unit |
|---|---------|---------------|------|------|------|------|------|------|--------------------|
| Maximum Recurrent Peak Reverse Voltage | VRRM | 50 | 100 | 150 | 200 | 300 | 400 | 600 | V |
| Maximum RMS Voltage | VRMS | 35 | 70 | 105 | 140 | 210 | 280 | 420 | V |
| Maximum DC Blocking Voltage | VDC | 50 | 100 | 150 | 200 | 300 | 400 | 600 | V |
| Maximum Average Forward Rectified Current $T_L = 100^\circ\text{C}$ | IF(AV) | 1 | | | | | | | A |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method) | IFSM | 30 | | | | | | | A |
| Maximum Forward Voltage at 1 A | VF | 0.95 | | | 1.25 | | 1.7 | | V |
| Maximum Reverse Current at $T_A = 25^\circ\text{C}$ | IR | 5 | | | | | | | μA |
| Maximum Reverse Current at Rated DC Blocking Voltage at $T_A = 100^\circ\text{C}$ | IR | 100 | | | | | | | μA |
| Typical Junction Capacitance at $V_R = 4\text{ V}, f = 1\text{ MHz}$ | CJ | 10 | | | | | | | pF |
| Typical Reverse Recovery Time at $I_F = 0.5\text{ A}, I_R = 1\text{ A}, I_{Tr} = 0.25\text{ A}$ | trr | 35 | | | | | | 50 | nS |
| Typical Thermal Resistance ¹⁾ | R | 35 | | | | | | | $^\circ\text{C/W}$ |
| Operating Junction and Storage Temperature Range | TJ ,TS | - 55 to + 150 | | | | | | | $^\circ\text{C/W}$ |

1) Thermal resistance from junction to lead mounted on P.C.B. with 0.3 X 0.3" (8.0 X 8.0 mm) copper pad areas.

ES1A---ES1J Typical Characteristics

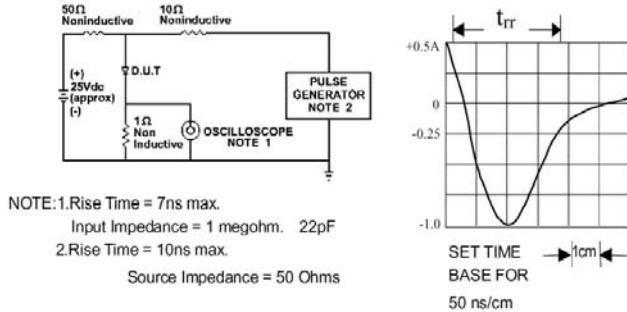


Fig. 1-REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

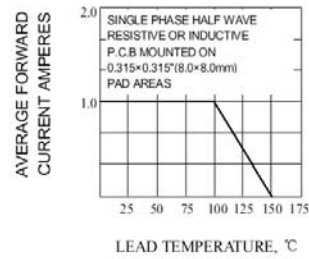


Fig. 2-MAXIMUM AVERAGE FORWARD CURRENT RATING

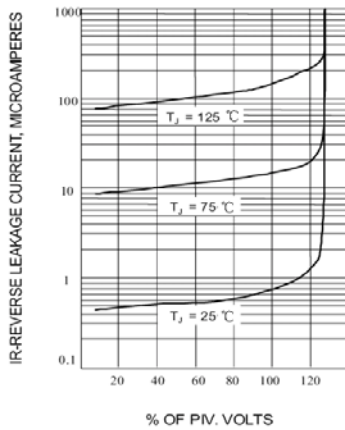


Fig. 3-TYPICAL REVERSE CHARACTERISTICS

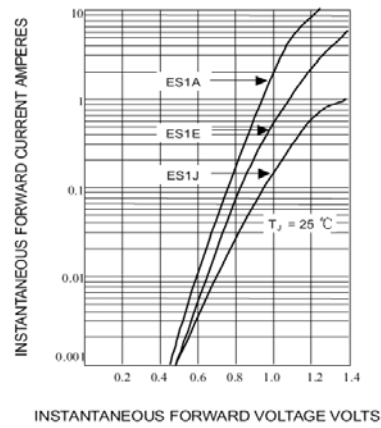


Fig. 4-TYPICAL FORWARD CHARACTERISTICS

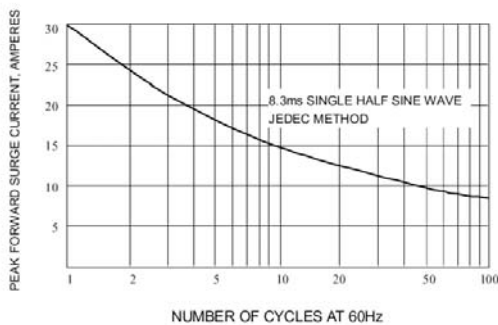


Fig. 5-MAXIMUM NON-REPETITIVE SURGE CURRENT

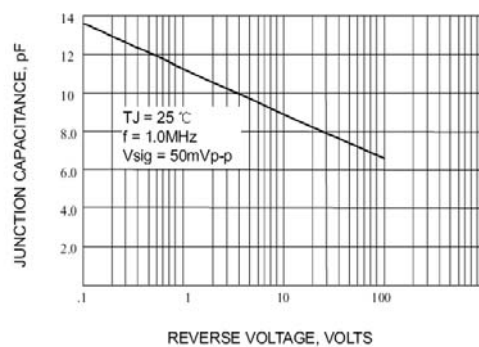


Fig. 6-TYPICAL JUNCTION CAPACITANCE