

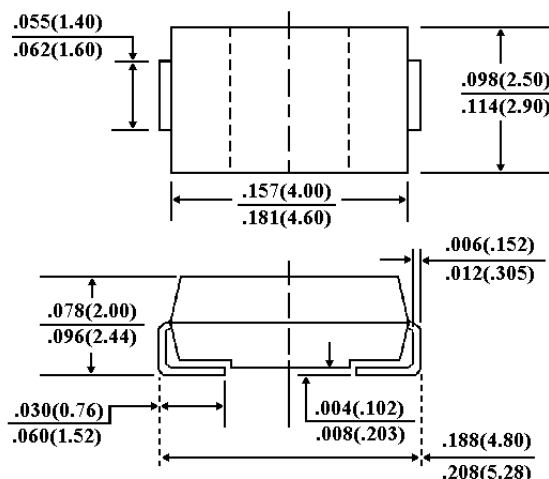
ES1A THRU ES1J

SURFACE MOUNT SUPERFAST RECTIFIER VOLTAGE - 50 to 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

SMA/DO-214AC



Dimensions in inches and (millimeters)

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 ounce, 0.064 gram

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%.

| | SYMBOLS | ES1A | ES1B | ES1C | ES1D | ES1E | ES1G | ES1J | UNITS |
|---|------------------|-------------|------|------|------|------|------|------|-------|
| Maximum Recurrent 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, at $T_L=120$ °C | $I_{(AV)}$ | 1.0 | | | | | | | Amps |
| Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load(JEDEC method) | I_{FSM} | 30.0 | | | | | | | Amps |
| Maximum Instantaneous Forward Voltage at 1.0A | V_F | 0.95 | | | 1.25 | | 1.7 | | Volts |
| Maximum DC Reverse Current $T_A=25$ °C | I_R | 5.0 | | | | | | | µg A |
| At Rated DC Blocking Voltage $T_A=100$ °C | | 100 | | | | | | | |
| Maximum Reverse Recovery Time (Note 1) | T_{RR} | 35.0 | | | | | | | nS |
| Typical Junction capacitance (Note 2) | C_J | 10.0 | | | | | | | pF |
| Typical Thermal Resistance (Note 3) | $R_{\theta KJL}$ | 35 | | | | | | | °C/W |
| Operating and Storage Temperature Range | T_J, T_{STG} | -50 to +150 | | | | | | | °C |

NOTES:

1. Reverse Recovery Test Conditions: $I_F=0.5A$, $I_R=1.0A$, $I_{rr}=0.25A$
2. Measured at 1 MHz and Applied reverse voltage of 4.0 volts
3. $8.0mm^2$ (.013mm thick) land areas

RATING AND CHARACTERISTIC CURVES

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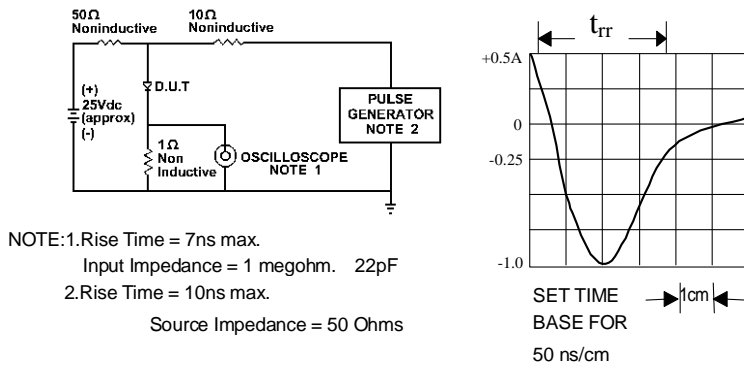


Fig. 1-REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

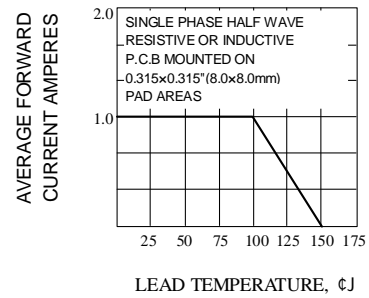


Fig. 2-MAXIMUM AVERAGE FORWARD CURRENT RATING

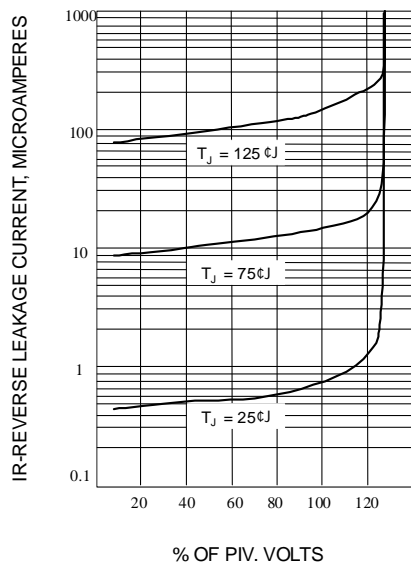


Fig. 3-TYPICAL REVERSE CHARACTERISTICS

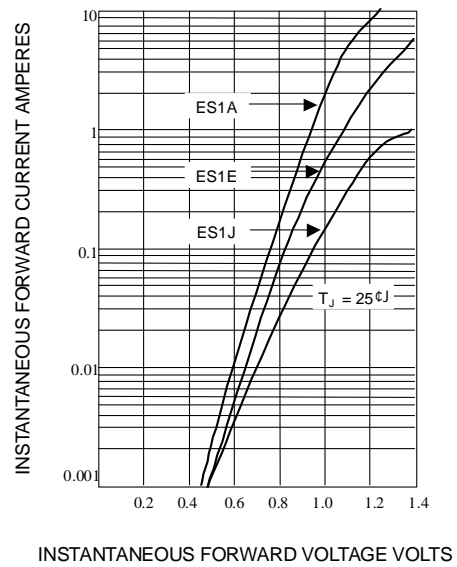


Fig. 4-TYPICAL FORWARD CHARACTERISTICS

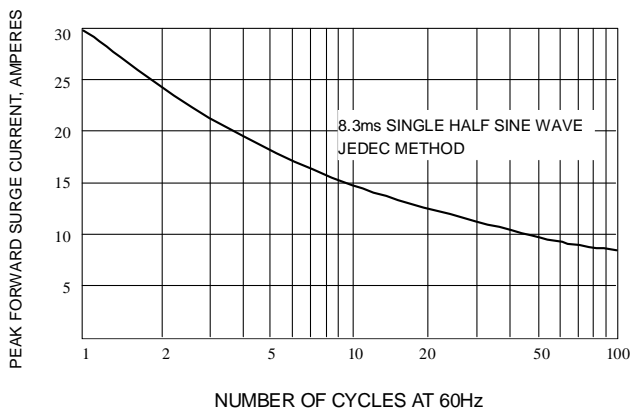


Fig. 5-MAXIMUM NON-REPETITIVE SURGE CURRENT

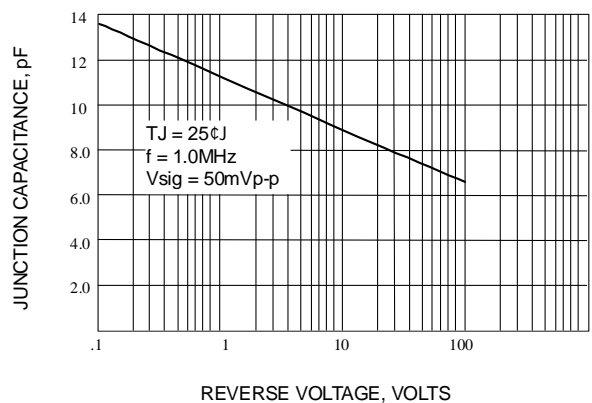


Fig. 6-TYPICAL JUNCTION CAPACITANCE