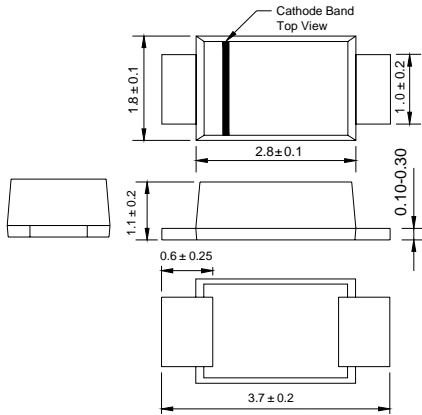


ES1AL THRU ES1JL

SURFACE MOUNT SUPER FAST RECTIFIER

Reverse Voltage - 50 to 600 Volts Forward Current - 1.0 Ampere

SOD-123FL



Dimensions in millimeters

FEATURES

- ◆ Glass passivated device
- ◆ Ideal for surface mounted applications
- ◆ Low reverse leakage
- ◆ Metallurgically bonded construction
- ◆ High temperature soldering guaranteed:
250°C/10 seconds, 0.375" (9.5mm) lead length,
5 lbs. (2.3kg) tension

MECHANICAL DATA

Case: JEDEC SOD-123FL molded plastic body over passivated chip
Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes cathode end
Mounting Position: Any
Weight: 0.0007 ounce, 0.02 grams

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 current derate by 20%.

| | SYMBOLS | ES1AL EA | ES1BL EB | ES1CL EC | ES1DL ED | ES1EL EE | ES1GL EG | ES1JL EJ | 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 | $I_{(AV)}$ | 1.0 | | | | | | | Amp |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | I_{FSM} | 25.0 | | | | | | | Amps |
| Maximum instantaneous forward voltage at 1.0A | V_F | 0.95 | | | | 1.25 | | 1.7 | Volts |
| Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=100^\circ\text{C}$ | I_R | | | | | 5.0 100.0 | | | μA |
| Maximum reverse recovery time (NOTE 1) | t_{rr} | | | | | 35 | | | ns |
| Typical junction capacitance (NOTE 2) | C_J | | | | | 10 | | | pF |
| Typical thermal resistance (NOTE 3) | $R_{\theta JA}$ | | | | | 85 | | | K/W |
| Operating junction and storage temperature range | T_J, T_{STG} | -55 to +150 | | | | | | | $^\circ\text{C}$ |

- Note:** 1. Measured with $I_F=0.5\text{A}$, $I_R=1\text{A}$, $I_{rr}=0.25\text{A}$.
 2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
 3. PCB mounted on 0.2*0.2" (5.0*5.0mm) copper pad area.

RATINGS AND CHARACTERISTIC CURVES ES1AL THRU ES1JL

FIG. 1- FORWARD CURRENT DERATING CURVE

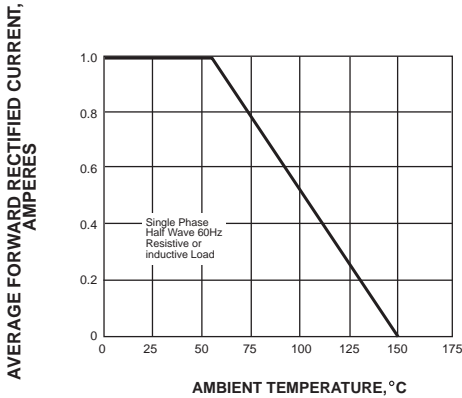


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

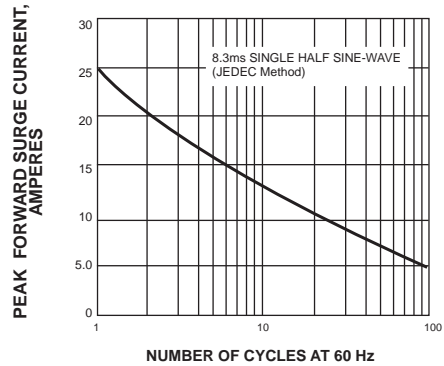


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

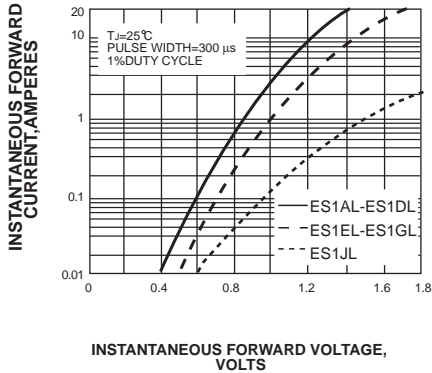


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

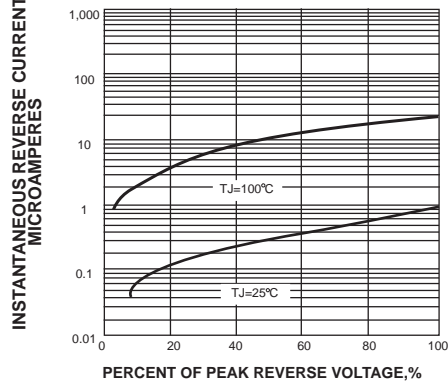


FIG. 5-TYPICAL JUNCTION CAPACITANCE

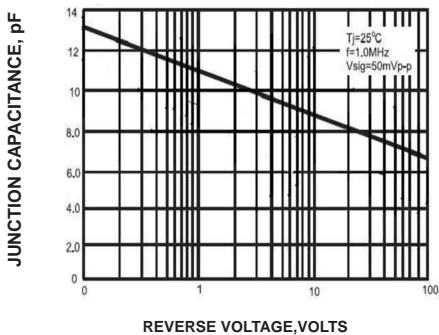


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

