

## SURFACE MOUNT SUPER FAST RECTIFIER

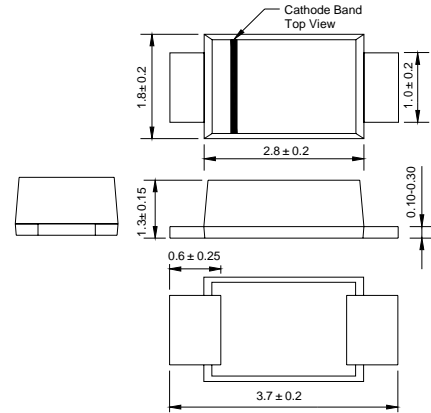
# ES1AL THRU ES1JL

**VOLTAGE RANGE**
**50 to 600 Volts**
**CURRENT**
**1.0 Ampere**

### FEATURES

- Glass passivated device
- Ideal for surface mounted applications
- Low reverse leakage
- Metallurgically bonded construction
- High temperature soldering guaranteed:  
260°C/10 seconds, 0.375" (9.5mm) lead length,  
5 lbs. (2.3kg) tension

### SOD-123FL



Dimensions in millimeters

### 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			$\mu\text{A}$
						100.0			
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.



# SURFACE MOUNT SUPER FAST RECTIFIER

## ES1AL THRU ES1JL

VOLTAGE RANGE  
CURRENT

50 to 600 Volts  
1.0 Ampere

FIG. 1- FORWARD CURRENT DERATING CURVE

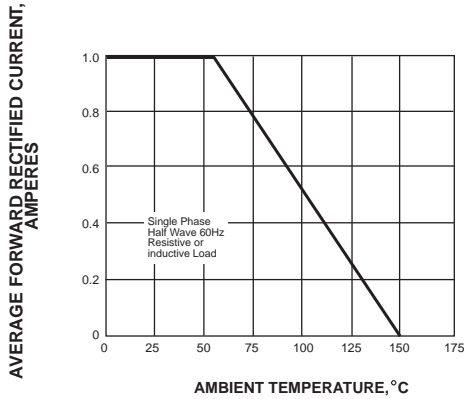


FIG. 2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

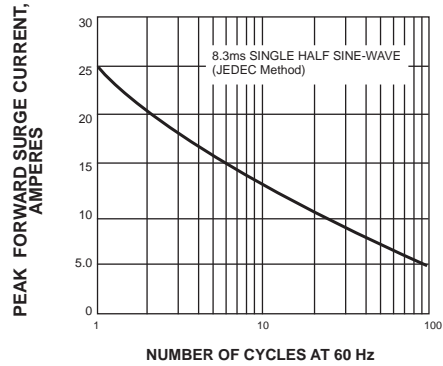


FIG. 3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

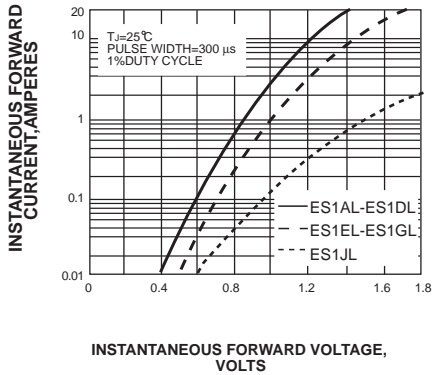


FIG. 4- TYPICAL REVERSE CHARACTERISTICS

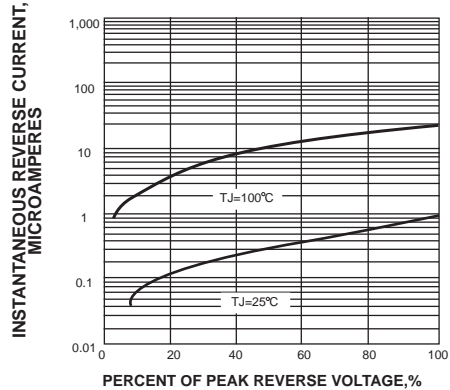


FIG. 5- TYPICAL JUNCTION CAPACITANCE

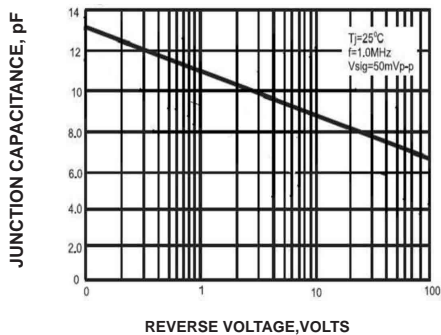


FIG. 6- TYPICAL TRANSIENT THERMAL IMPEDANCE

