

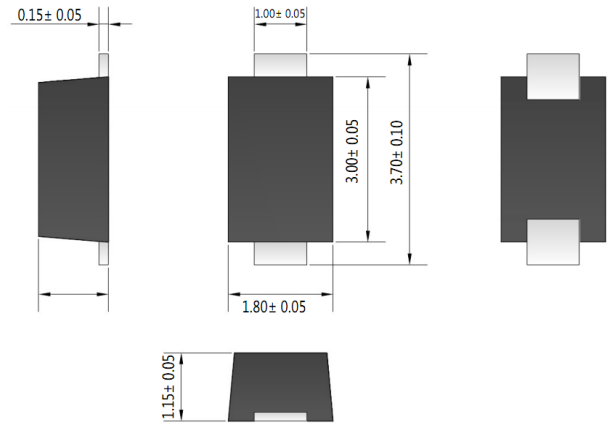
## Features

- **Low Profile 1.08mm Max. Case Height**
- Glass Passivated Die Construction
- Low Forward Voltage Drop, High Efficiency
- Surge Overload Rating to 30A Peak
- Super-Fast Recovery Time
- Ideally Suited for Automatic Assembly
- Plastic Material – UL Recognition Flammability Classification 94V-0

## Mechanical Data

- Case: SOD-123FL, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.017 grams (approx.)
- Marking: Device Code, See Page 3
- **Lead Free: For RoHS / Lead Free Version**

## SOD-123FL

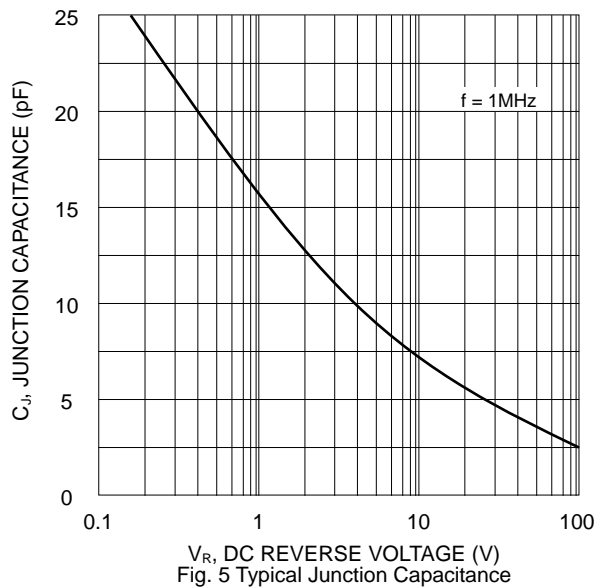
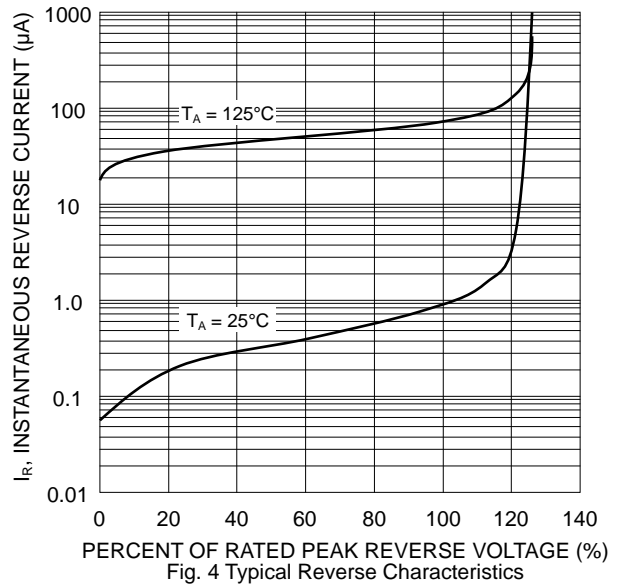
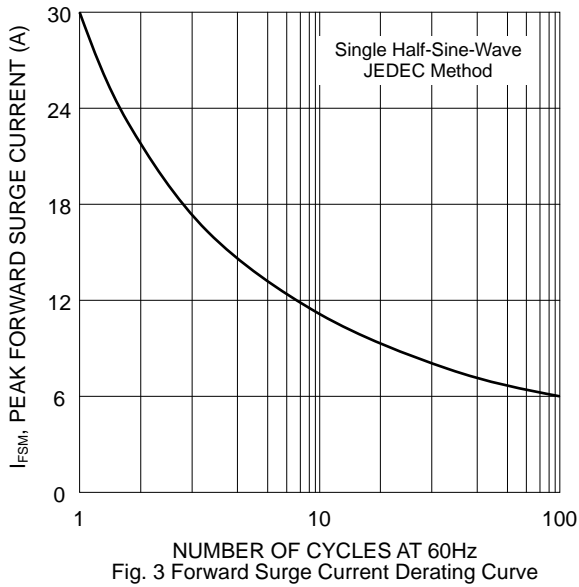
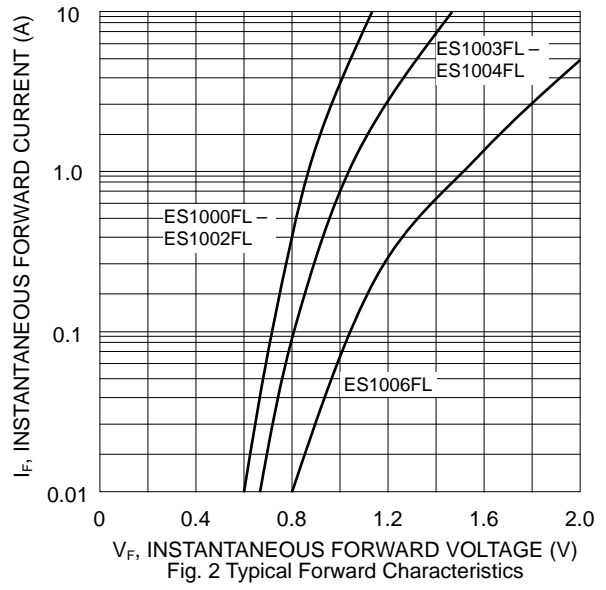
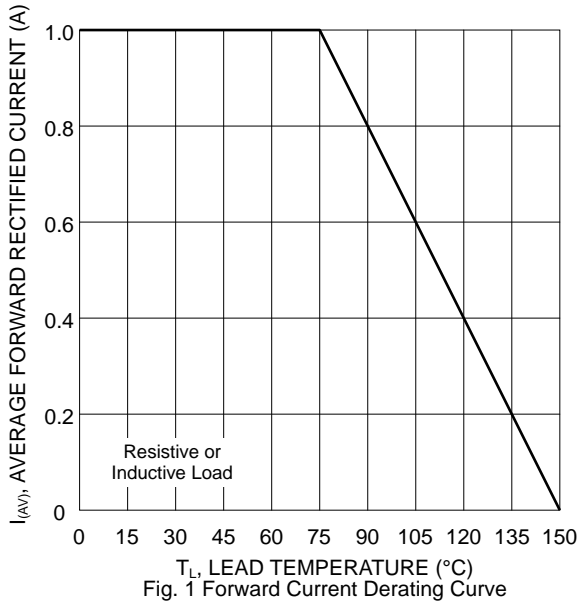


## Maximum Ratings and Electrical Characteristics @ $T_A=25^\circ\text{C}$ unless otherwise specified

Single Phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Characteristic	Symbol	ES 1000FL	ES 1001FL	ES 1002FL	ES 1003FL	ES 1004FL	ES 1006FL	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$							
Working Peak Reverse Voltage	$V_{RWM}$	50	100	200	300	400	600	V
DC Blocking Voltage	$V_R$							
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	210	280	420	V
Average Rectified Output Current @ $T_L = 75^\circ\text{C}$	$I_O$	1.0						A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method)	$I_{FSM}$	30						A
Forward Voltage @ $I_F = 1.0\text{A}$	$V_{FM}$	0.95			1.25		1.7	V
Peak Reverse Current @ $T_A = 25^\circ\text{C}$ At Rated DC Blocking Voltage @ $T_A = 125^\circ\text{C}$	$I_{RM}$	5.0 200						$\mu\text{A}$
Reverse Recovery Time (Note 1)	$t_{rr}$	35						nS
Typical Junction Capacitance (Note 2)	$C_J$	10						pF
Thermal Resistance Junction to Ambient (Note 3)	$R_{JA}$	325						$^\circ\text{C/W}$
Thermal Resistance Junction to Ambient (Note 4)	$R_{JA}$	82						
Thermal Resistance Junction to Lead (Note 3)	$R_{JL}$	26						
Thermal Resistance Junction to Lead (Note 4)	$R_{JL}$	21						
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150						$^\circ\text{C}$

- Note: 1. Measured with  $I_F = 0.5\text{A}$ ,  $I_R = 1.0\text{A}$ ,  $I_{RR} = 0.25\text{A}$ .  
 2. Measured at 1.0 MHz and applied reverse voltage of 4.0 V DC.  
 3. Mounted on FR-4 P.C. Board with minimum recommended pad size.  
 4. Mounted on FR-4 P.C. Board with 700mm<sup>2</sup> copper pads.

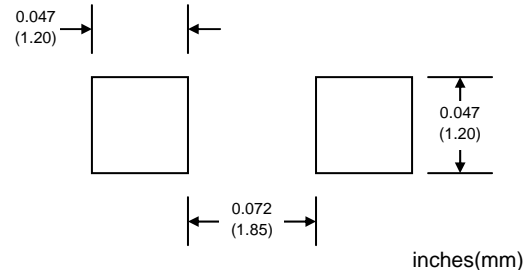


## MARKING INFORMATION



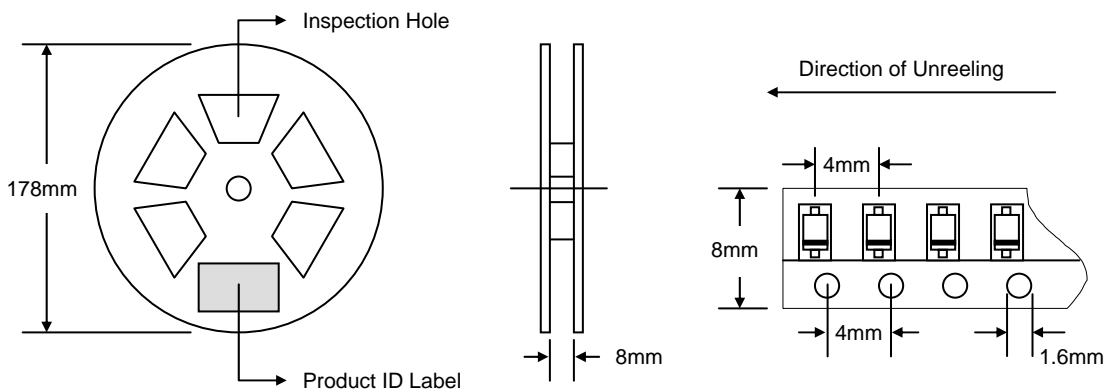
Cathode = Polarity Band  
 E1x = Device Code  
 x = A (ES1000FL)  
       B (ES1001FL)  
       D (ES1002FL)  
       E (ES1003FL)  
       G (ES1004FL)  
       J (ES1006FL)

## RECOMMENDED FOOTPRINT



## PACKAGING INFORMATION

### TAPE & REEL



Reel Diameter (mm)	Quantity (PCS)	Inner Box Size L x W x H (mm)	Quantity (PCS)	Carton Size L x W x H (mm)	Quantity (PCS)	Approx. Gross Weight (KG)
178	3,000	195 x 135 x 195	30,000	370 x 370 x 420	240,000	10.0