

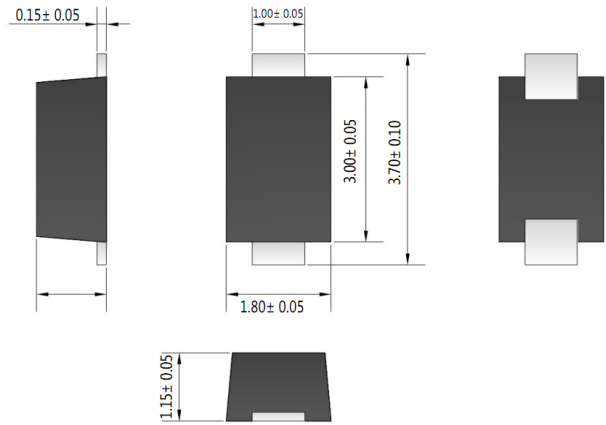
### Features

- **Low Profile 1.08mm Max. Case Height**
- Glass Passivated Die Construction
- Low Forward Voltage Drop, High Efficiency
- Surge Overload Rating to 30A Peak
- Ultra-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

Characteristic	Symbol	US 1000FL	US 1001FL	US 1002FL	US 1004FL	US 1006FL	US 1008FL	US 1010FL	Unit	
Peak Repetitive Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V	
Working Peak Reverse Voltage	$V_{RWM}$	50	100	200	400	600	800	1000	V	
DC Blocking Voltage	$V_R$	50	100	200	400	600	800	1000	V	
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	280	420	560	700	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 @ $I_F = 1.0\text{A}$	$V_{FM}$	1.0		1.3		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)	$t_{rr}$	50				75				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.

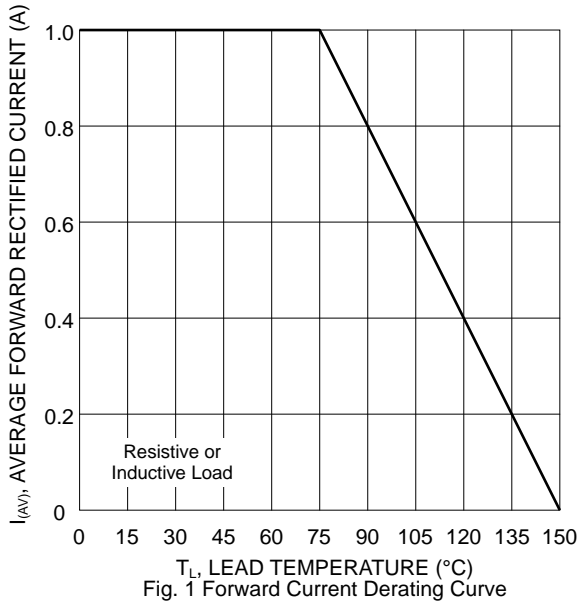


Fig. 1 Forward Current Derating Curve

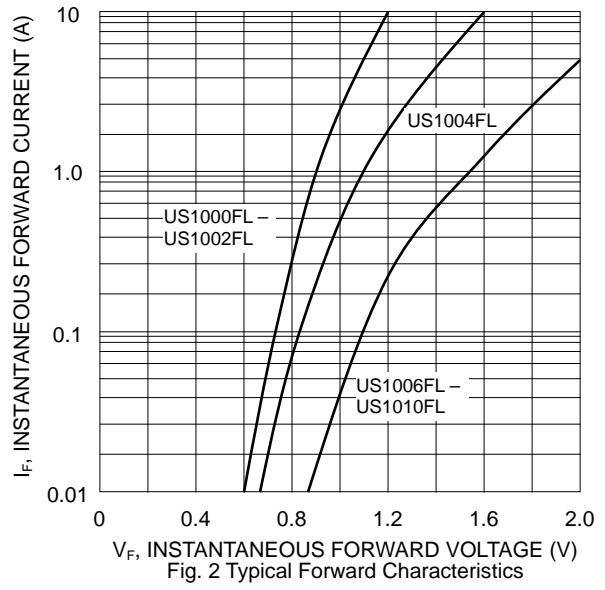


Fig. 2 Typical Forward Characteristics

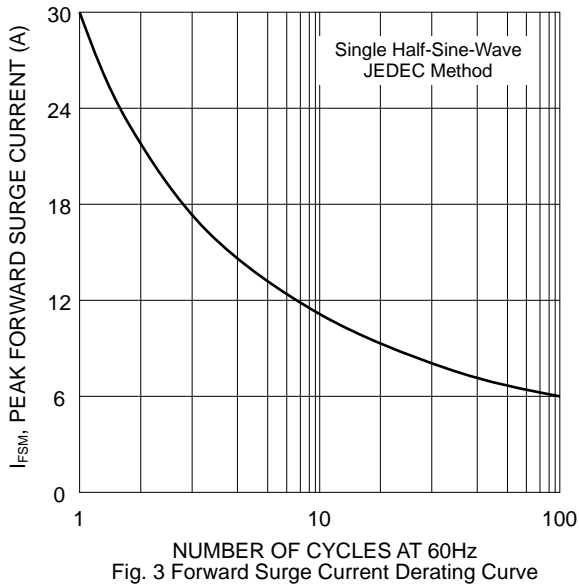


Fig. 3 Forward Surge Current Derating Curve

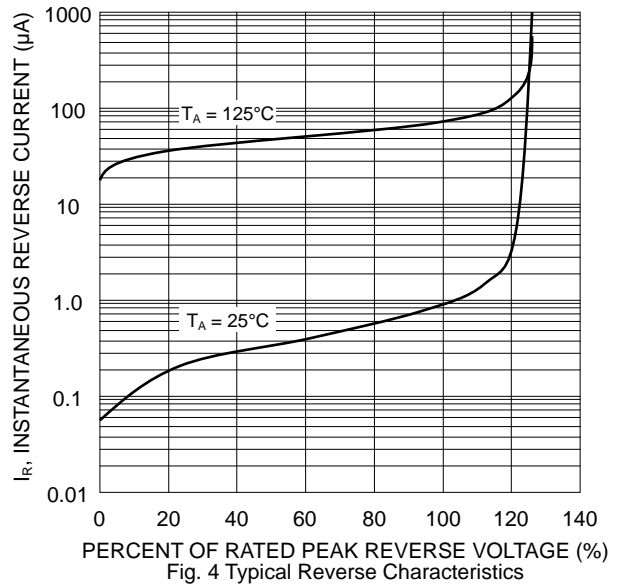


Fig. 4 Typical Reverse Characteristics

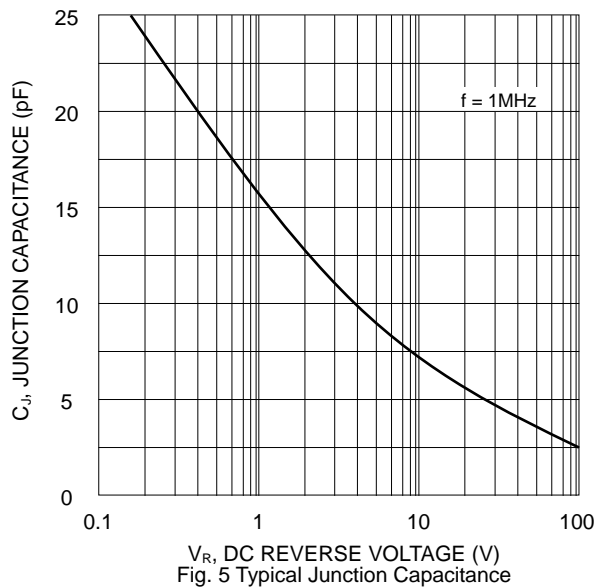


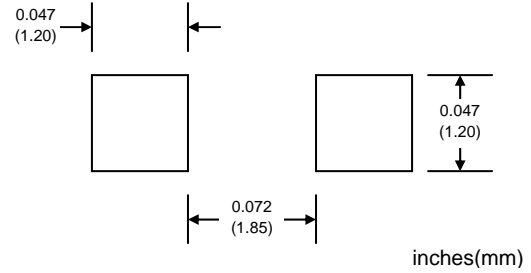
Fig. 5 Typical Junction Capacitance

## MARKING INFORMATION



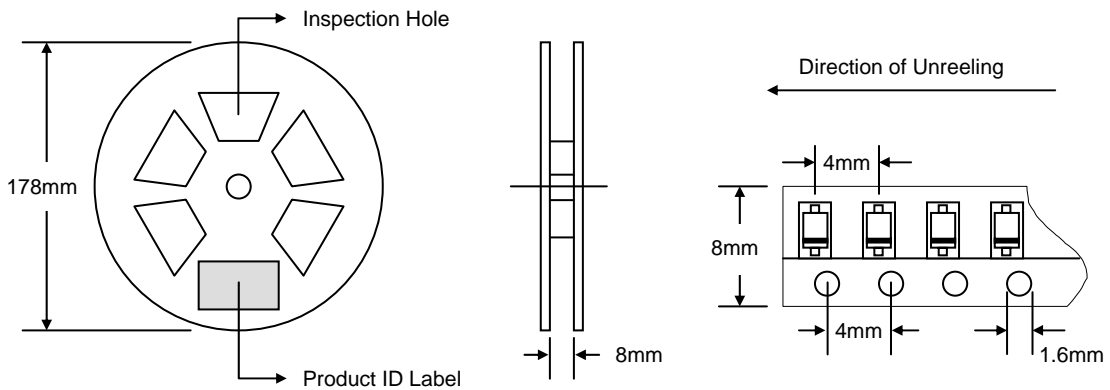
Cathode = Polarity Band  
 U1x = Device Code  
 x = A (US1000FL)  
       B (US1001FL)  
       D (US1002FL)  
       G (US1004FL)  
       J (US1006FL)  
       K (US1008FL)  
       M (US1010FL)

## 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