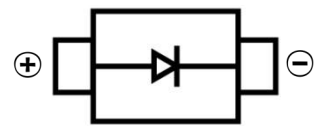


**SUPER FAST RECOVERY RECTIFIER DIODE**
**FEATURES**

- Surface Mount device
- Low Reverse voltage leakage current
- Glass passivated junction
- High forward surge current capability
- Low forward voltage drop
- Super Fast Recovery Time for High Efficiency


**SOD-123FL**
**MECHANICAL DATA**

- Case: SOD-123FL
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Weight: 0.0155 grams (approximate)
- Marking:ES1D


**MAXIMUM RATINGS (T<sub>A</sub> = 25°C unless otherwise noted)**

Parameter	Symbol	Value	Unit
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	200	V
DC Blocking Reverse Voltage	V <sub>R</sub>	200	V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	140	V
Maximum Average Forward Rectified Current	I <sub>F</sub>	1	A
Non-Repetitive Peak Forward Surge Current @t=8.3ms	I <sub>FSM</sub>	30	A
Thermal Resistance From Junction To Ambient	R <sub>θJA</sub>	120	°C/W
Reverse Recovery Time(@I <sub>F</sub> =0.5A, I <sub>R</sub> =1.0A, I <sub>RR</sub> =0.25A)	t <sub>rr</sub>	35	nS
Junction Temperature	T <sub>J</sub>	-55 ~+150	°C
Storage Temperature	T <sub>STG</sub>	-55 ~+150	°C

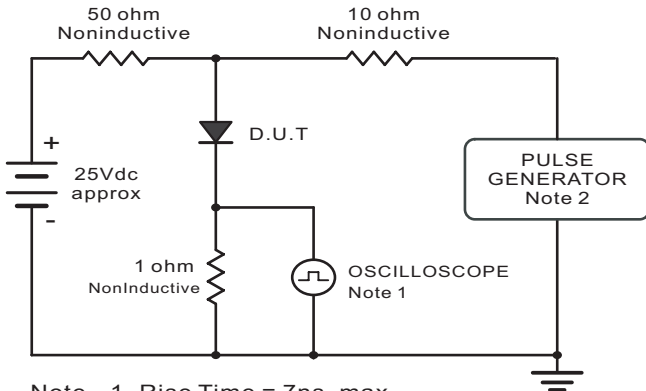
**ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C unless otherwise specified)**

Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Forward voltage	V <sub>F</sub>			1.0	V	I <sub>F</sub> =1A
Reverse current @T <sub>A</sub> =25°C	I <sub>R</sub>			5	μA	V <sub>R</sub> =200V
Reverse current @T <sub>A</sub> =125°C	I <sub>R</sub>			100	μA	V <sub>R</sub> =200V
Diode capacitance	C <sub>D</sub>		10		pF	V <sub>R</sub> =4V <sub>DC</sub> , f=1MHz

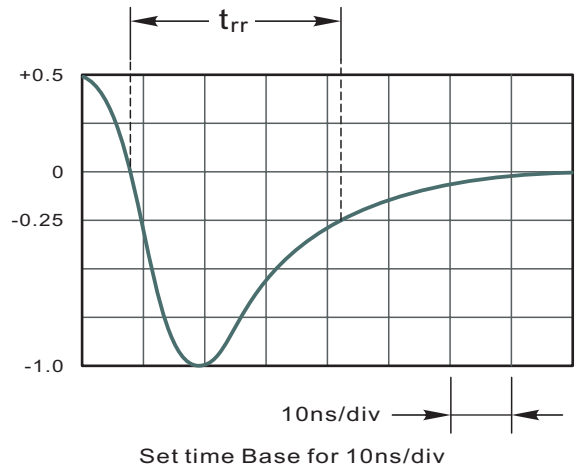
**SUPER FAST RECOVERY RECTIFIER DIODE**

**Typical Characteristics**

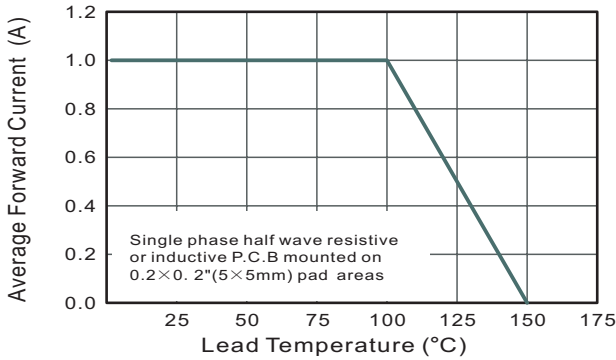
**Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram**



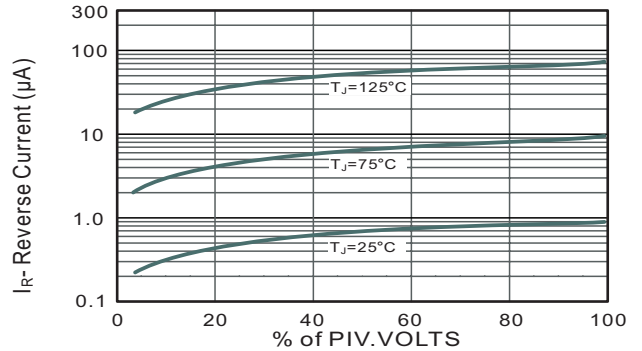
Note: 1. Rise Time = 7ns, max.  
Input Impedance = 1megohm, 22pF.  
2. Rises Time = 10ns, max.  
Source Impedance = 50 ohms.



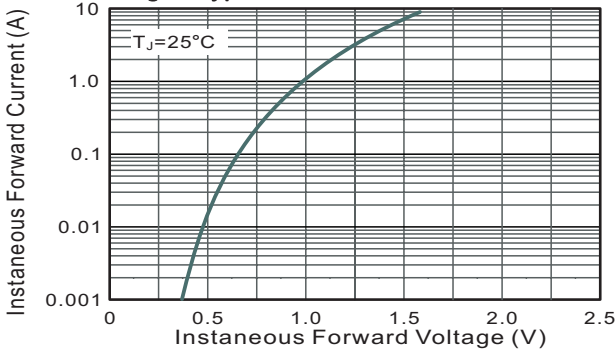
**Fig.2 Maximum Average Forward Current Rating**



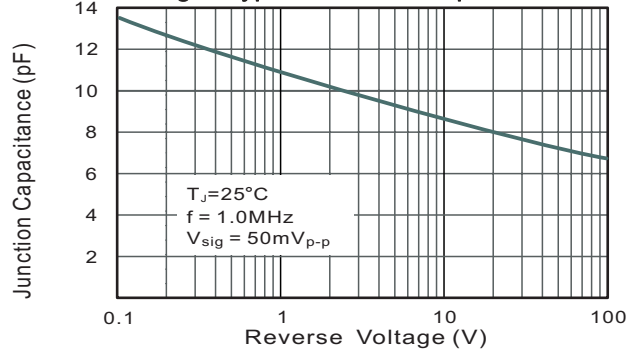
**Fig.3 Typical Reverse Characteristics**



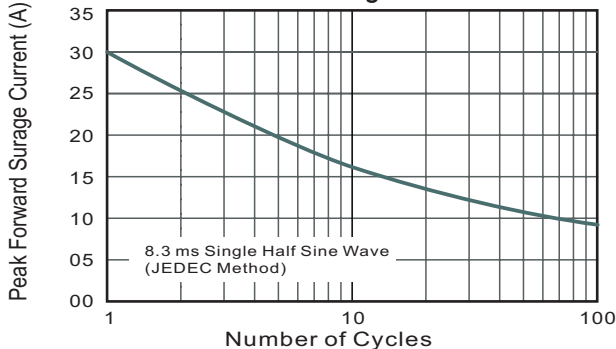
**Fig.4 Typical Forward Characteristics**

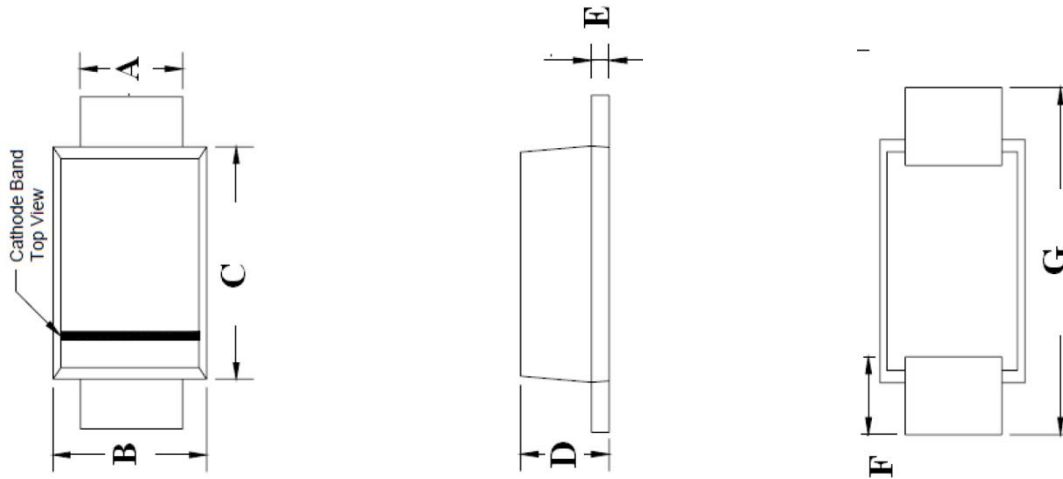


**Fig.5 Typical Junction Capacitance**

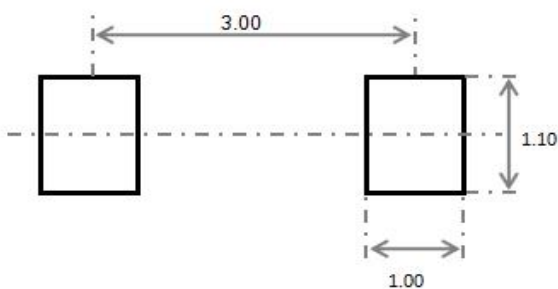


**Fig.6 Maximum Non-Repetitive Peak Forward Surge Current**

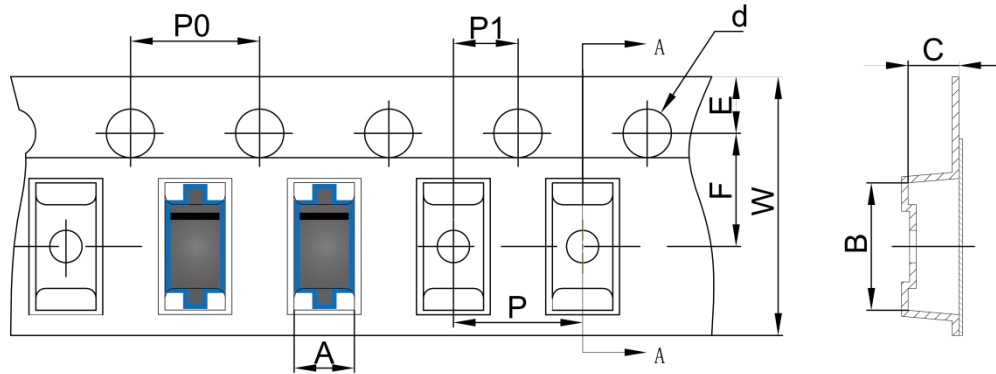


**SUPER FAST RECOVERY RECTIFIER DIODE**
**SOD-123FL Package Outline Dimensions**


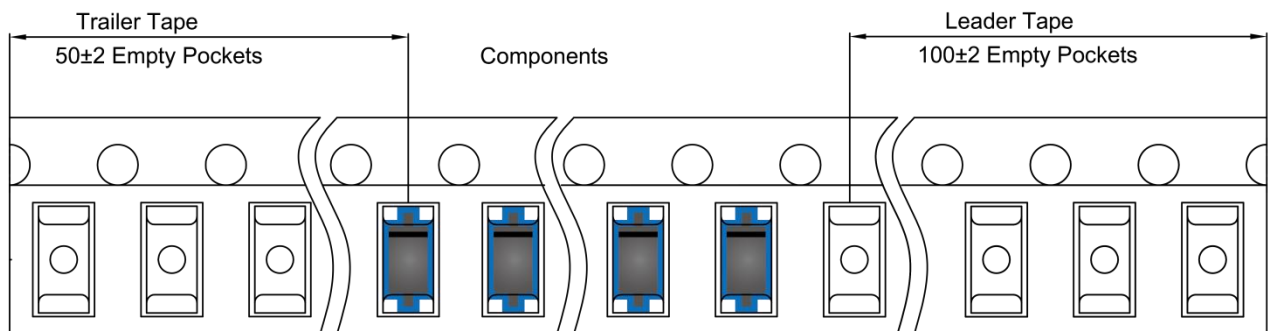
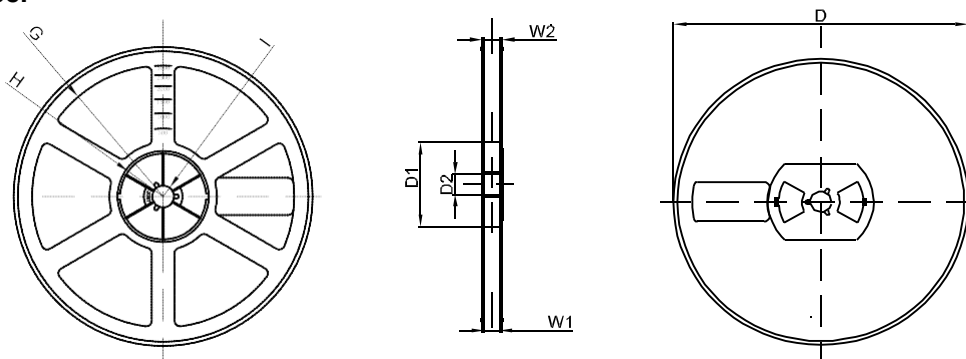
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.75	0.95	0.029	0.037
B	1.60	2.00	0.063	0.079
C	2.60	3.00	0.103	0.119
D	0.90	1.20	0.036	0.047
E	0.12	0.22	0.005	0.009
F	0.8Typ		0.032Typ	
G	3.50	3.90	0.138	0.159

**SOD-123FL Suggested Pad Layout**

**Note:**

1. Controlling dimension: in millimeters
2. General tolerance:  $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only

**SUPER FAST RECOVERY RECTIFIER DIODE**
**SOD-123FL Tape and Reel**
**SOD-123FL Embossed Carrier Tape**


DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
SOD-123FL	2.10	4.00	1.25	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

**SOD-123FL Tape Leader and Trailer**

**SOD-123FL Reel**


DIMENSIONS ARE IN MILLIMETER								
REEL OPTION	D	D1	D2	G	H	I	W1	W2
7" DIA	Ø178	54.40	13.00	R78	R25.60	R6.50	9.50	12.30
TOLERANCE	±2	±1	±1	±1	±1	±1	±1	±1