

SCHOTTKY BARRIER DIODE

FEATURES

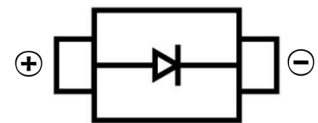
- Small Surface Mount device
- Low power loss, high efficiency
- High temperature soldering guaranteed: 260°C/10 seconds at terminals
- Guard ring for over voltage protection
- For use in low voltage high frequency inverters, free wheeling, and polarity protection applications



SOD-123FL

MECHANICAL DATA

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



MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	SS12L	SS13L	SS14L	SS16L	SS18L	SS110L	SS115L	SS120L	Unit
Repetitive peak reverse voltage	V_{RRM}	20	30	40	60	80	100	150	200	V
DC Reverse Voltage	V_R	20	30	40	60	80	100	150	200	V
RMS Reverse Voltage	V_{RMS}	14	21	28	42	56	70	105	140	V
Non-Repetitive Peak Forward Surge Current @ $t = 8.3 \text{ ms}$	I_{FSM}	30								A
Mean rectifying current	I_F	1.0								A
Thermal Resistance	$R_{\theta JA}$	110								$^\circ\text{C}/\text{W}$
Junction Temperature	T_J	150								$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 ~ +175								$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	SS12L	SS13L	SS14L	SS16L	SS18L	SS110L	SS115L	SS120L	Unit	Conditions
Forward voltage	V_F	0.5	0.55	0.7	0.85	0.9	0.92			V	$I_F = 1\text{A}$
Reverse current $T = 25^\circ\text{C}$	I_R	0.5								mA	$V = V_R$
Reverse current $T = 125^\circ\text{C}$	I_R	10								mA	
Junction capacitance	C_J	160								pF	$V = 4\text{V}, f = 1\text{MHz}$

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Typical Characteristics

FIG.1 FORWARD CURRENT DERATING CURVE

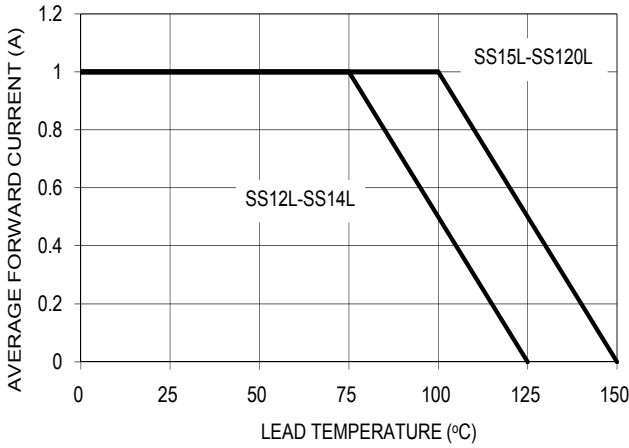


FIG. 2 MAXIMUM FORWARD SURGE CURRENT

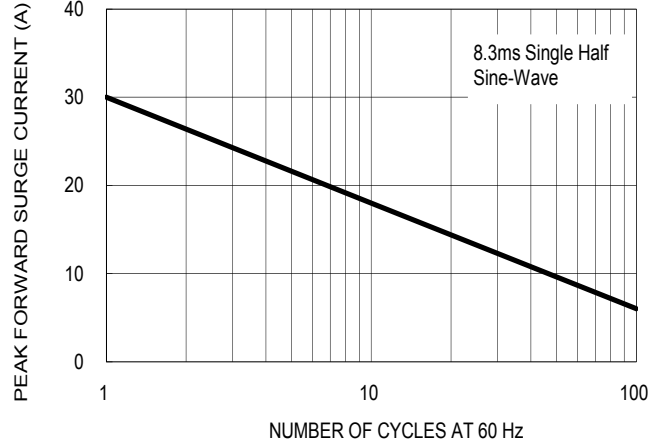


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

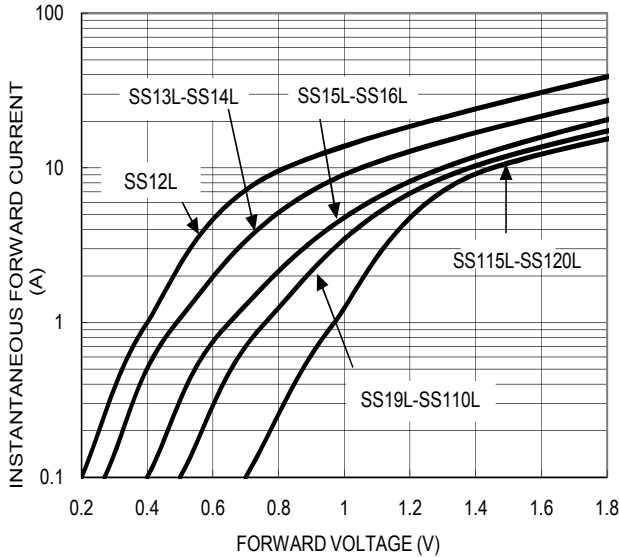


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

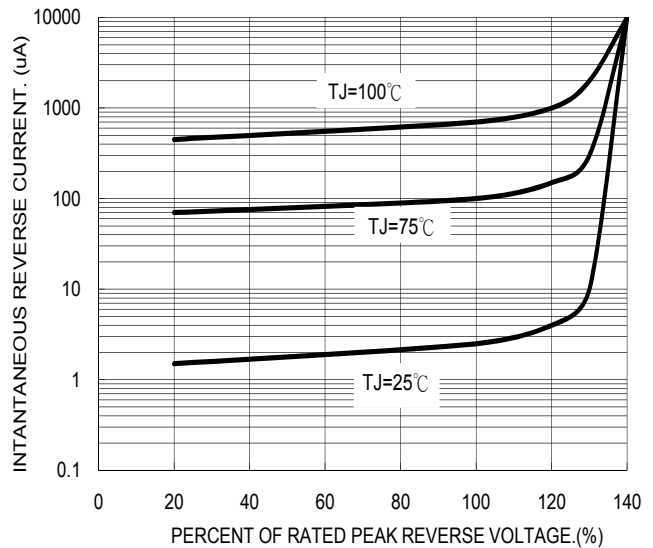


FIG. 5 TYPICAL JUNCTION CAPACITANCE

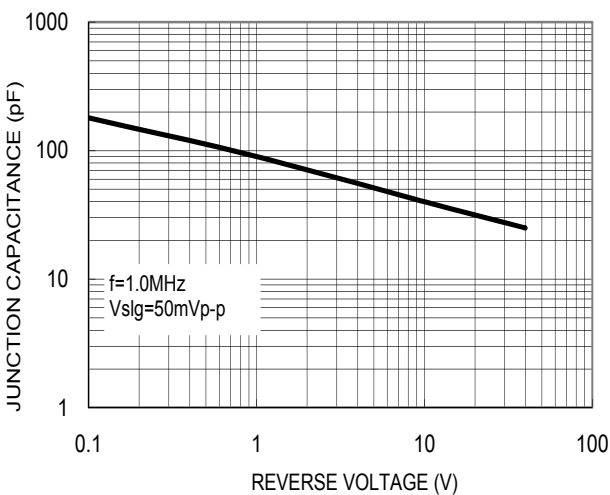
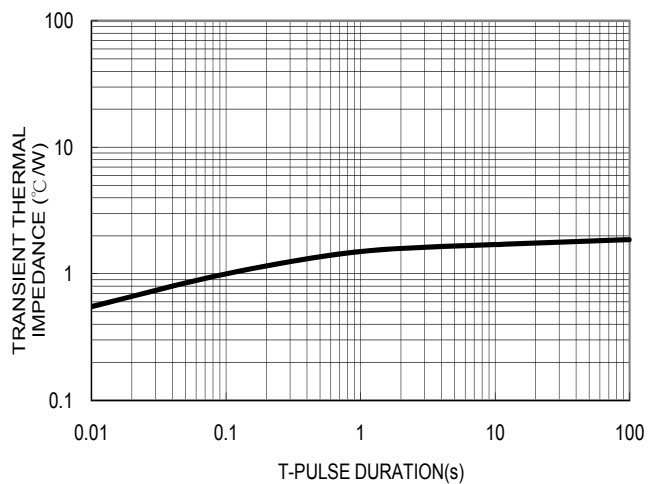
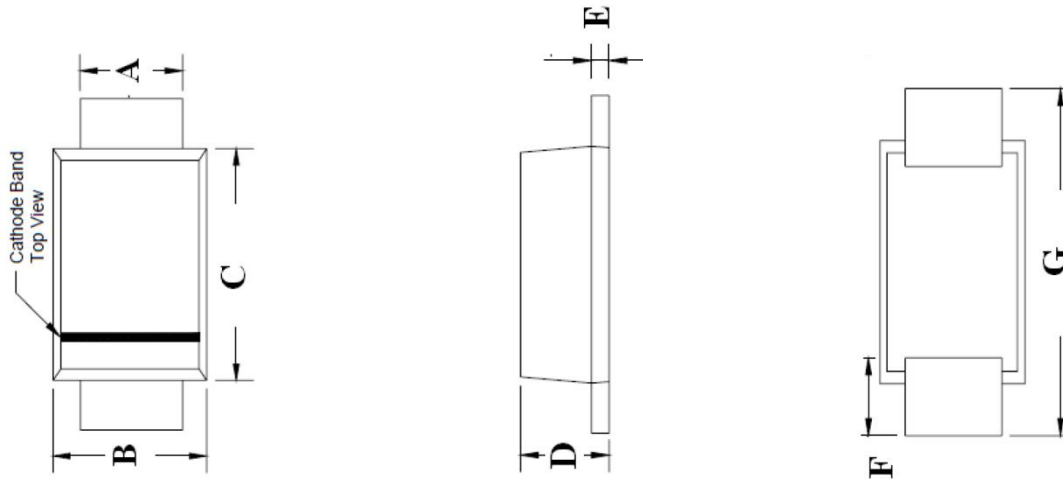


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE



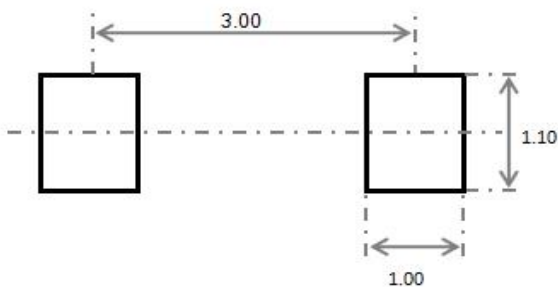
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SOD-123FL Package Outline Dimensions



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



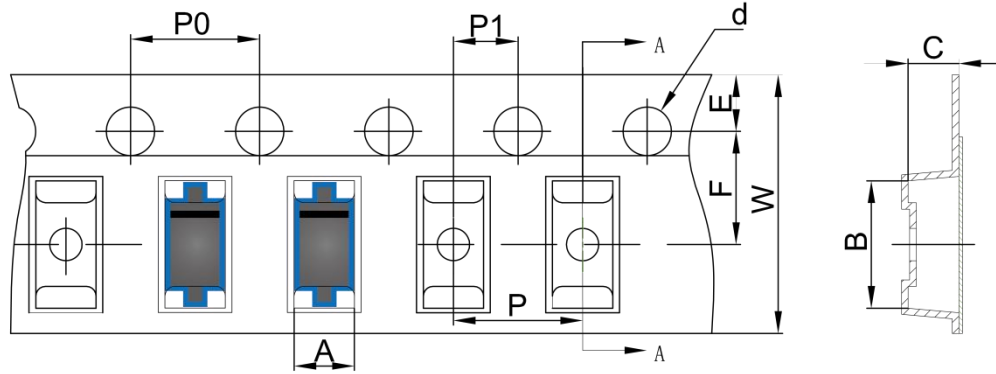
Note:

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

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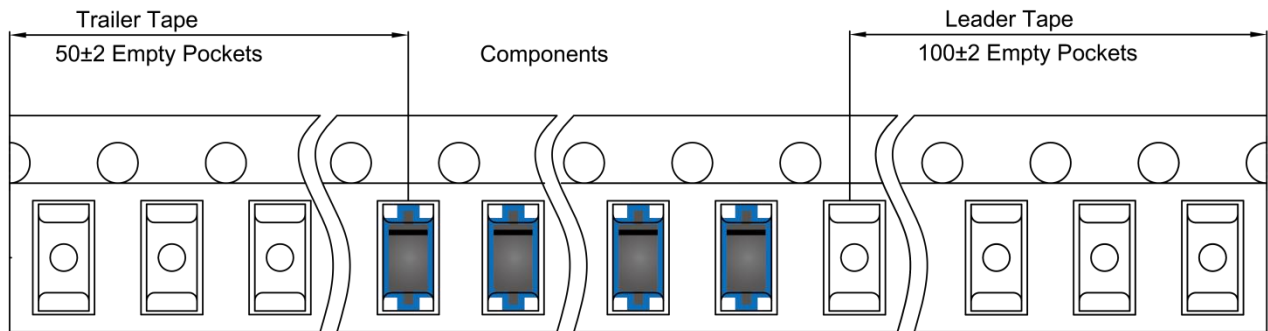
SOD-123FL Tape and Reel

SOD-123FL Embossed Carrier Tape

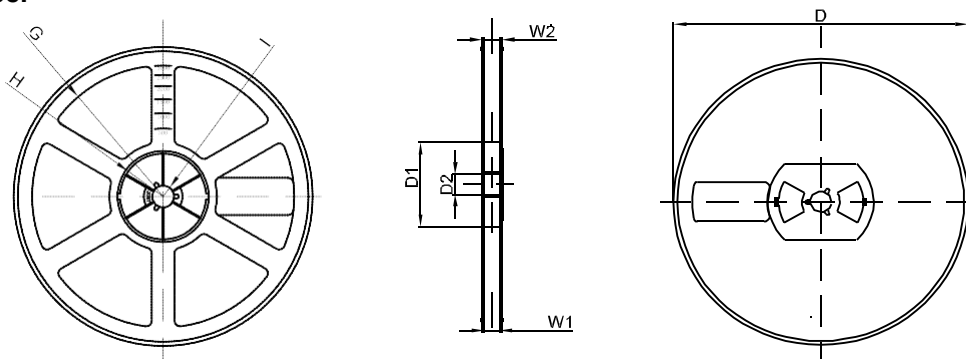


DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
SOD-123FL	2.10	4.00	1.25	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

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