

# MSKSEMI

SEMICONDUCTOR



ESD



TVS



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MOV



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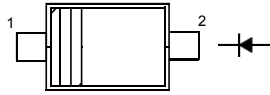


PLED

Product data sheet

**Features**

- Fast switching speed
- Ultra-small surface mount package
- For general purpose switching applications
- High conductance



SOD-123

RNNING

PIN	DESCRIPTION
1	Cathode
2	Anode

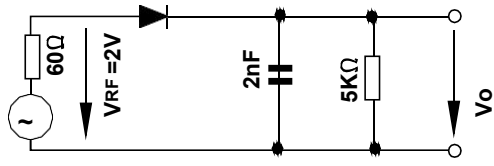
MARK:T4

**Absolute Maximum Ratings (T<sub>a</sub> = 25 °C)**

Parameter	Symbol	Value	Unit
Peak Reverse Voltage	V <sub>RM</sub>	100	V
Reverse Voltage	V <sub>R</sub>	75	V
Average Rectified Forward Current	I <sub>F(AV)</sub>	150	mA
Non-repetitive Peak Forward Surge Current at t = 1 μs	I <sub>FSM</sub>	2	A
Power Dissipation	P <sub>tot</sub>	400	mW
Thermal Resistance from Junction to Ambient Air	R <sub>θJA</sub>	312	°C/W
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature Range	T <sub>stg</sub>	- 65 to + 150	°C

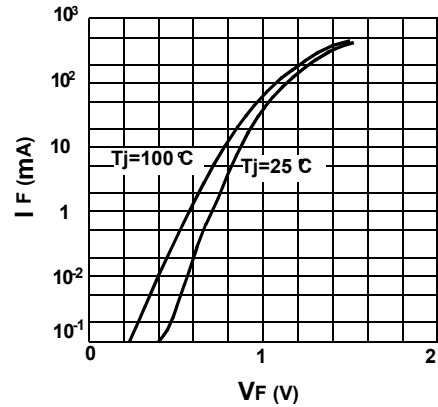
**Characteristics at T<sub>a</sub> = 25 °C**

Parameter	Symbol	Min.	Max.	Unit
Reverse Breakdown Voltage at I <sub>R</sub> = 1 μA	V <sub>(BR)R</sub>	75	-	V
Forward Voltage at I <sub>F</sub> = 1 mA at I <sub>F</sub> = 10 mA at I <sub>F</sub> = 50 mA at I <sub>F</sub> = 150 mA	V <sub>F</sub>	- - - -	0.715 0.855 1 1.25	V
Peak Reverse Current at V <sub>R</sub> = 75 V at V <sub>R</sub> = 20 V at V <sub>R</sub> = 75 V, T <sub>j</sub> = 150 °C at V <sub>R</sub> = 25 V, T <sub>j</sub> = 150 °C	I <sub>R</sub>	- - - -	1 25 50 30	μA nA μA μA
Total Capacitance at V <sub>R</sub> = 0 V, f = 1 MHz	C <sub>T</sub>	-	2	pF
Reverse Recovery Time at I <sub>rr</sub> = 0.1 X I <sub>R</sub> , I <sub>F</sub> = I <sub>R</sub> = 10 mA, R <sub>L</sub> = 100 Ω	t <sub>rr</sub>	-	4	ns

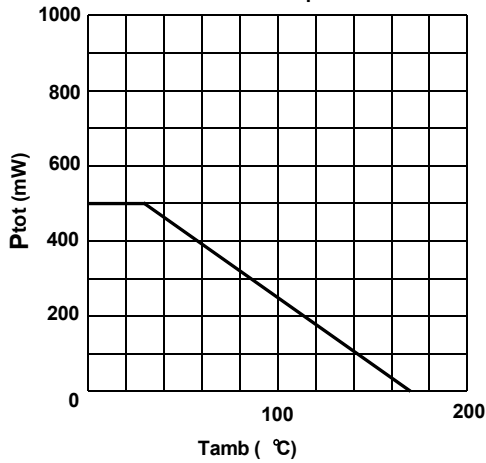


Rectification Efficiency Measurement Circuit

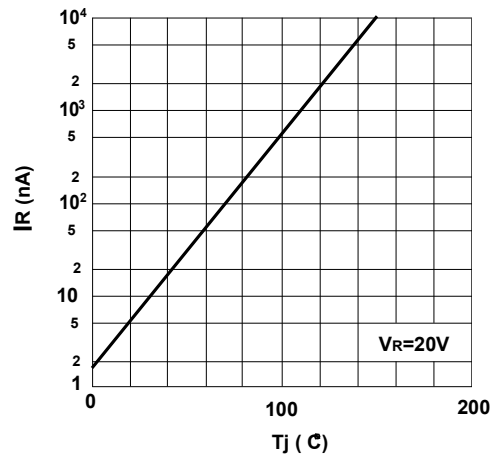
Forward characteristics



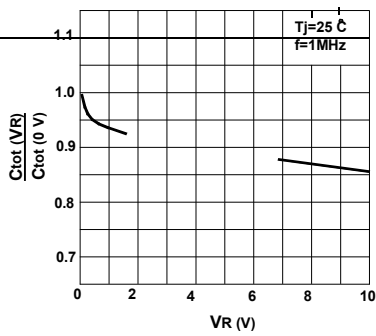
Ammissible power dissipation vs. ambient temperature



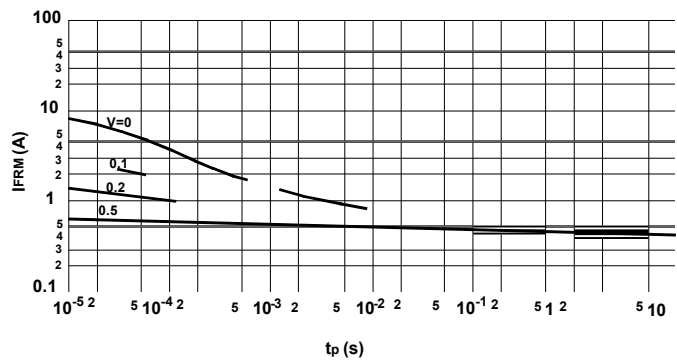
Leakage current vs. junction temperature



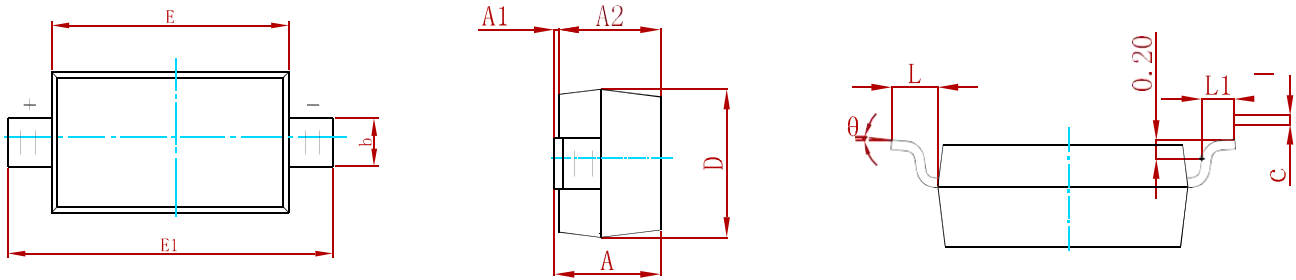
Reverse capacitance vs. reverse voltage



Ammissible repetitive peak forward current vs. pulse duration

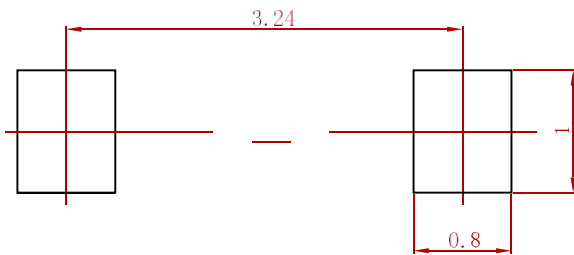


**PACKAGE MECHANICAL DATA**



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.450	0.650	0.018	0.026
c	0.080	0.150	0.003	0.006
D	1.500	1.700	0.059	0.067
E	2.600	2.800	0.102	0.110
E1	3.550	3.850	0.140	0.152
L	0.500 REF		0.020 REF	
L1	0.250	0.450	0.010	0.018
θ	0°	8°	0°	8°

**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.

**REEL SPECIFICATION**

P/N	PKG	QTY
1N4148W-MS	SOD-123	3000

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