

Features

- P_{tot} 1.5W
- V_Z 3.3V- 200V
- the marking bar indicates the cathode

Applications

- Stabilizing Voltage

Marking

- SMF59XXA
XX:From 13 To 57



SOD-123FL



Uni-direction



Halogen-Free

Limiting Values(Absolute Maximum Rating)

Symbol	Parameter	Conditions	Value	Unit
P_d	Power dissipation	$T_L=75^{\circ}\text{C}$	1.5	W
I_Z	Zener current		P_V / V_Z	mA
T_J, T_{stg}	Operation Junction and Storage Temperature Range		-55~+150	$^{\circ}\text{C}$

Electrical Characteristics ($T_a=25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Parameter	Conditions	Value	Unit
$R_{\theta JA}$	Thermal resistance	Between junction to ambient	170	$^{\circ}\text{C}/\text{W}$
$R_{\theta JL}$		Between junction to lead	25	$^{\circ}\text{C}/\text{W}$
V_F	Forward voltage	$I_F=200\text{mA}$	1.5	V

Notes :

- (1) The type number listed have a standard tolerance on the nominal zener voltage of $\pm 5\%$ method.
- (2) The reverse surge current is a non-repetitive, 8.3ms pulse width square wave or equivalent sine-wave superimposed on IZT per method.

Electrical Characteristics $T_a=25^\circ\text{C}$ unless otherwise specified

Typ Number	Nominal Zener Voltage @ I_T			$I_{ZT}(\text{mA})$	Maximum Zener Impedance			Maximum Reverse Leakage Current		Maximum DC Zener Current
	$V_Z \text{ AVE. }^{(V)}$	$V_Z \text{ MIN. }^{(V)}$	$V_Z \text{ MAX. }^{(V)}$		$Z_{ZT} \text{ MAX. }^{(Ω)} @ I_{ZT}$	$Z_{ZK} \text{ MAX. }^{(Ω)} @ I_{ZK}$	$I_{ZK}(\text{mA})$	$I_R(\mu\text{A}) @ V_R$	$V_R(\text{V})$	
SMF5913A	3.3	3.135	3.465	113.6	10.0	500.0	1.00	100.0	1.0	274.0
SMF5914A	3.6	3.42	3.78	104.2	9.0	500.0	1.00	75.0	1.0	251.0
SMF5915A	3.9	3.71	4.10	96.1	7.5	500.0	1.00	25.0	1.0	232.0
SMF5916A	4.3	4.09	4.52	87.2	6.0	500.0	1.00	5.0	1.0	210.0
SMF5917A	4.7	4.47	4.94	79.8	5.0	500.0	1.00	5.0	1.5	192.0
SMF5918A	5.1	4.85	5.36	73.5	4.0	350.0	1.00	5.0	2.0	177.0
SMF5919A	5.6	5.32	5.88	66.9	2.0	250.0	1.00	5.0	3.0	161.0
SMF5920A	6.2	5.89	6.51	60.5	2.0	200.0	1.00	2.5	4.0	146.0
SMF5921A	6.8	6.46	7.14	55.1	2.5	200.0	1.00	2.5	5.2	133.0
SMF5922A	7.5	7.13	7.88	50.0	3.0	400.0	0.50	2.5	6.0	121.0
SMF5923A	8.2	7.79	8.61	45.7	3.5	400.0	0.50	2.5	6.5	110.0
SMF5924A	9.1	8.65	9.56	41.2	4.0	500.0	0.50	2.5	7.0	100.0
SMF5925A	10.0	9.50	10.50	37.5	4.5	500.0	0.25	2.5	8.0	91.0
SMF5926A	11.0	10.45	11.55	34.1	5.5	550.0	0.25	0.5	8.4	83.0
SMF5927A	12.0	11.40	12.60	31.2	6.5	550.0	0.25	0.5	9.1	76.0
SMF5928A	13.0	12.35	13.65	28.8	7.0	550.0	0.25	0.5	9.9	69.0
SMF5929A	15.0	14.25	15.75	25.0	9.0	600.0	0.25	0.5	11.4	61.0
SMF5930A	16.0	15.20	16.80	23.4	10.0	600.0	0.25	0.5	12.2	57.0
SMF5931A	18.0	17.10	18.90	20.8	12.0	650.0	0.25	0.5	13.7	50.0
SMF5932A	20.0	19.00	21.00	18.7	14.0	650.0	0.25	0.5	15.2	45.0
SMF5933A	22.0	20.90	23.10	17.0	17.5	650.0	0.25	0.5	16.7	41.0
SMF5934A	24.0	22.80	25.20	15.6	19.0	700.0	0.25	0.5	18.2	38.0
SMF5935A	27.0	25.65	28.35	13.9	23.0	700.0	0.25	0.5	20.6	34.0
SMF5936A	30.0	28.50	31.50	12.5	26.0	750.0	0.25	0.5	22.8	30.0
SMF5937A	33.0	31.35	34.65	11.4	33.0	800.0	0.25	0.5	25.1	27.0
SMF5938A	36.0	34.20	37.80	10.4	38.0	850.0	0.25	0.5	27.4	25.0
SMF5939A	39.0	37.05	40.95	9.6	45.0	900.0	0.25	0.5	29.7	23.0
SMF5940A	43.0	40.85	45.15	8.7	53.0	950.0	0.25	0.5	32.7	22.0
SMF5941A	47.0	44.65	49.35	8.0	67.0	1000.0	0.25	0.5	35.8	19.0
SMF5942A	51.0	48.45	53.55	7.3	70.0	1100.0	0.25	0.5	38.8	18.0
SMF5943A	56.0	53.20	58.80	6.7	86.0	1300.0	0.25	0.5	42.6	16.0
SMF5944A	62.0	58.90	65.10	6.0	100.0	1500.0	0.25	0.5	47.1	14.0
SMF5945A	68.0	64.60	71.40	5.5	120.0	1700.0	0.25	0.5	51.7	13.0
SMF5946A	75.0	71.25	78.75	5.0	140.0	2000.0	0.25	0.5	56.0	12.0
SMF5947A	82.0	77.90	86.10	4.6	160.0	2500.0	0.25	0.5	62.2	11.0
SMF5948A	91.0	86.45	95.55	4.1	200.0	3000.0	0.25	0.5	69.2	10.0
SMF5949A	100.0	95.00	105.00	3.7	250.0	3100.0	0.25	0.5	76.0	9.0
SMF5950A	110.0	104.50	115.50	3.4	300.0	4000.0	0.25	0.5	83.6	8.6
SMF5951A	120.0	114.00	126.00	3.1	380.0	4500.0	0.25	0.5	91.2	7.8
SMF5952A	130.0	123.50	136.50	2.9	450.0	5000.0	0.25	0.5	98.8	7.0
SMF5953A	150.0	142.50	157.50	2.5	600.0	6000.0	0.25	0.5	114.0	6.4
SMF5954A	160.0	152.00	168.00	2.3	700.0	6500.0	0.25	0.5	121.6	5.8
SMF5955A	180.0	171.00	189.00	2.1	900.0	7000.0	0.25	0.5	136.8	5.2
SMF5956A	200.0	190.00	210.00	1.9	1200.0	8000.0	0.25	0.5	152.0	4.7

Typical Characteristics

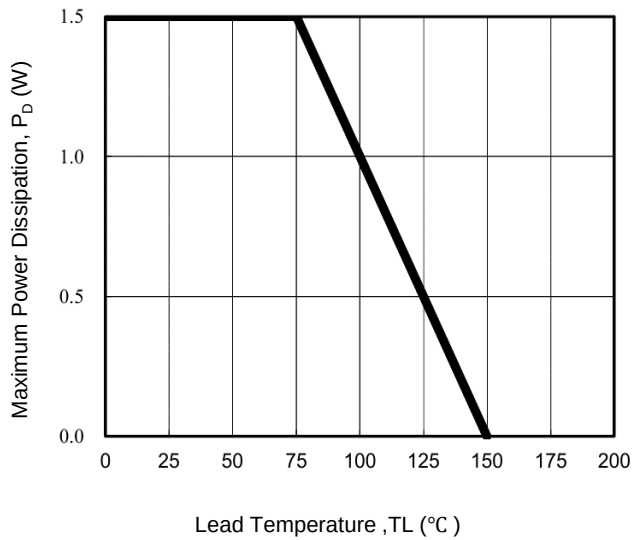


Fig. 1 - Power Temperature Derating Curve

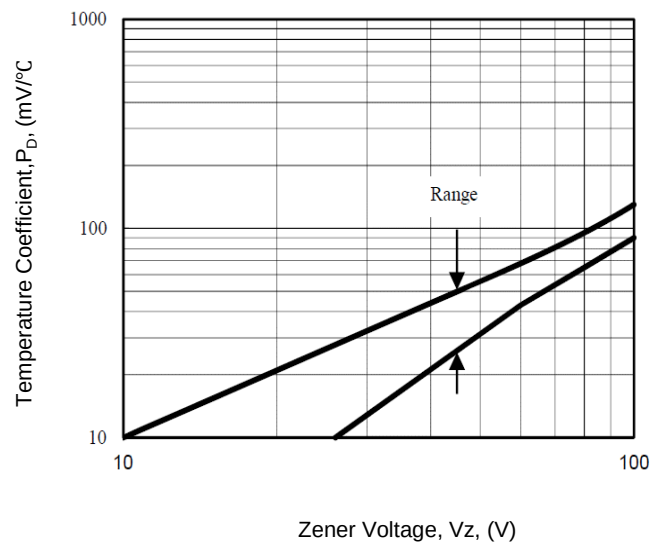


Fig. 2 - Temperature Coefficients v.s. Zener Voltage

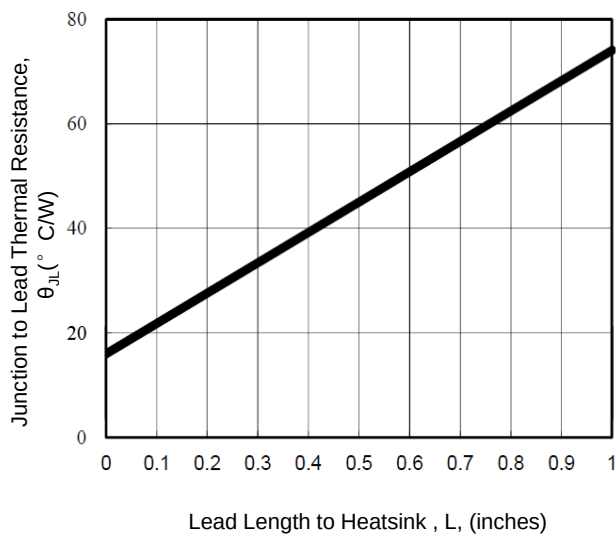


Fig. 3 - Typical Thermal Resistance v.s. Lead Length

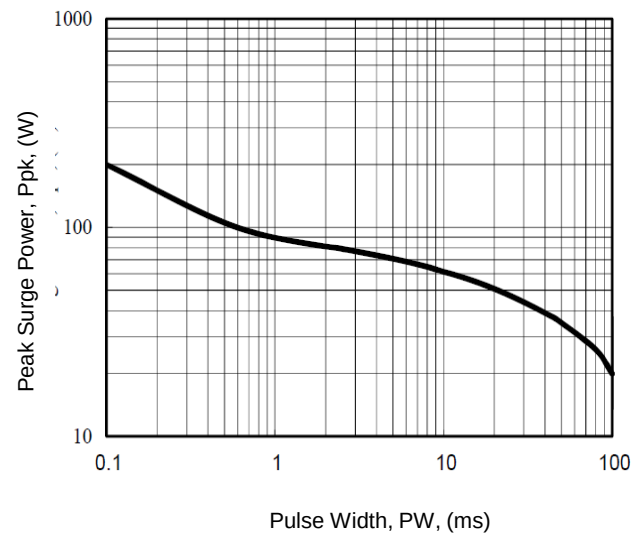


Fig. 4 - Maximum Surge Power

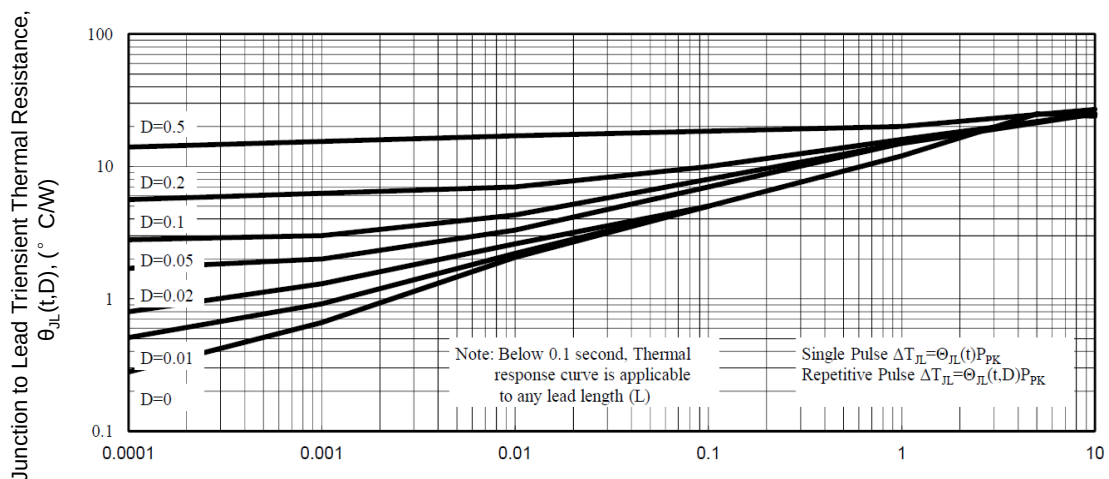
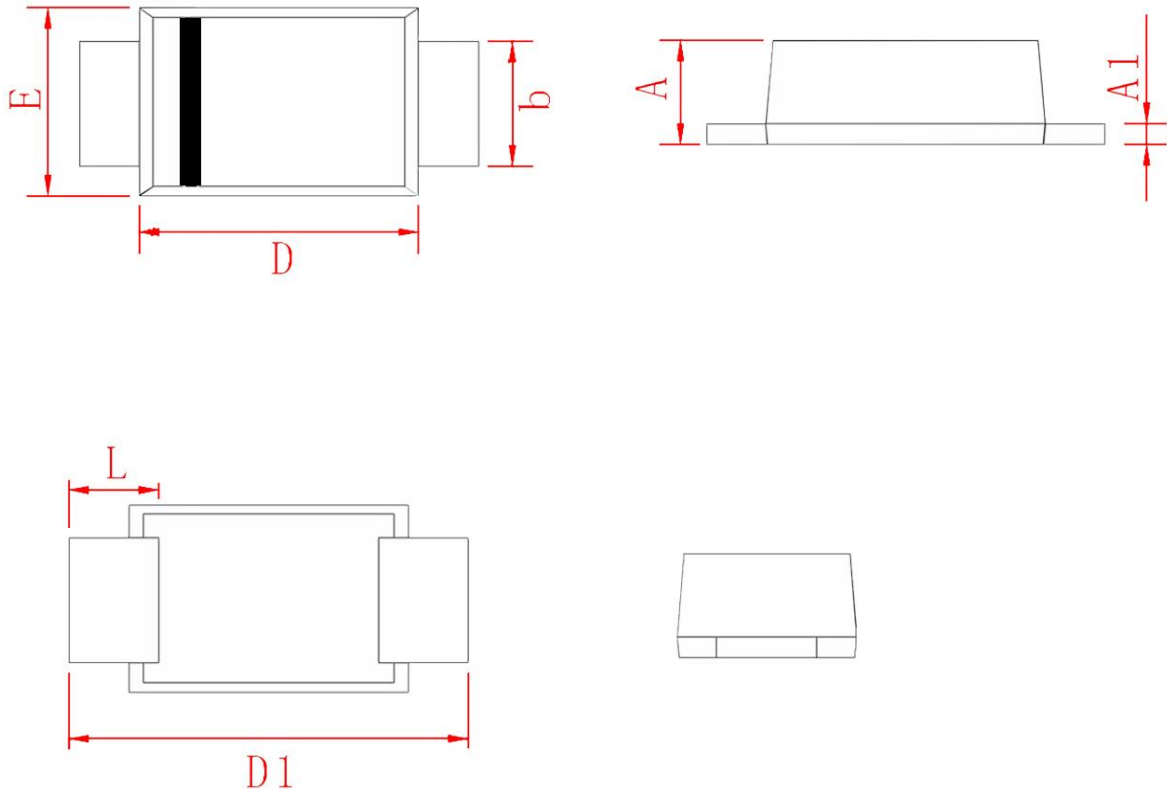


Fig. 5 - Typical Thermal Response L, Lead Length=3/8inch

SOD-123FL Package information



Symbol	Dimensions in Millimeters(mm)		Dimensions In Inches	
	Min	Max	Min	Max
A	1.200	1.400	0.047	0.055
A1	0.120	0.250	0.005	0.010
b	0.850	1.150	0.033	0.045
D	2.650	2.950	0.104	0.116
D1	3.550	3.850	0.140	0.152
E	1.700	1.900	0.067	0.075
L	0.500	0.900	0.020	0.035