SZCJ Shenzhen Changji Semiconductor Co., LTD.

SOD-123FL Plastic-Encapsulate Diodes

SMF59 SERIES Zener Diodes

Features

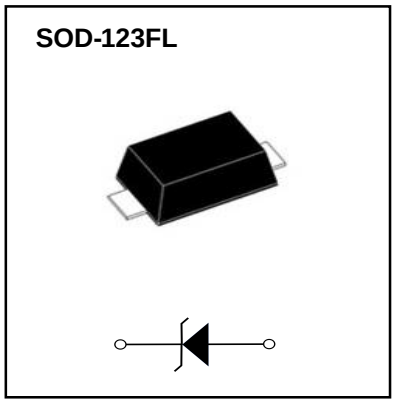
- P_{tot} 1.5W
- V_Z 3.3V- 200V
- The marking bar indicates the cathode

Applications

- Stabilizing Voltage

Marking

- SMF59XXA
  XX：From 13 To 57



Limiting Values(Absolute Maximum Rating)

Item	Symbol	Unit	Conditions	Max
Power dissipation	P_d	W	T_L=75℃	1.5
Zener current	I_Z	mA		P_V /V_Z
Operation Junction and Storage Temperature Range	T_J,T_{stg}	℃		-55 ~ +150

Electrical Characteristics（T_a=25℃ Unless otherwise specified）

Item	Symbol	Unit	Conditions	Max
Thermal resistance	$R_{\theta JA}$	℃/W	Between junction to ambient	170
	$R_{\theta JL}$	℃/W	Between junction to lead	25
Forward voltage	V_F	V	I_F=200mA	1.5

Electrical Characteristics (T_A=25℃ unless otherwise noted)

Part Number	Nominal Zener Voltage @I_T			I_{ZT}(mA)	Maximum Zener Impedance			Maximum Reverse Leakage Current		Maximum DC Zener Current
	$V_{Z\ AVE.}$(V)	$V_{Z\ MIN.}$(V)	$V_{Z\ MAX.}$(V)		$Z_{ZT\ MAX.}$(Ω) @I_{ZT}	$Z_{ZK\ MAX.}$(Ω) @I_{ZK}	I_{ZK}(mA)	I_R(uA)@V_R	V_R(V)	I_{ZM}（mA）
SMF5913A	3.3	3.135	3.465	113.6	10	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

Notes :

(1) The type number listed have a standard tolerance on the nominal zener voltage of ± 5 %

(2) The revese surge current is a non-repetitive, 8.3ms pulse width square wave or equivalent sine-wave superimposed on IZT per method.

Typical Characteristics

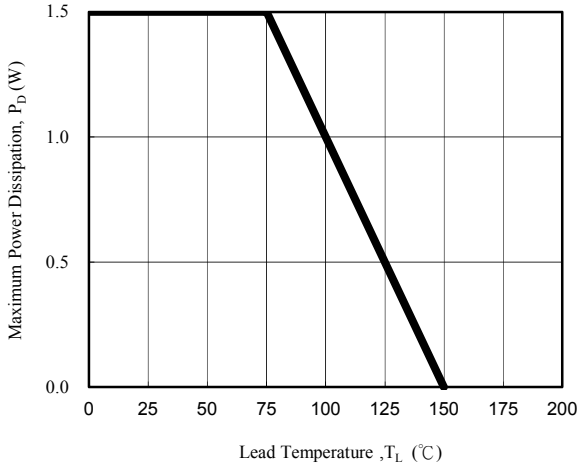


Fig. 1 - Power Temperature Derating Curve

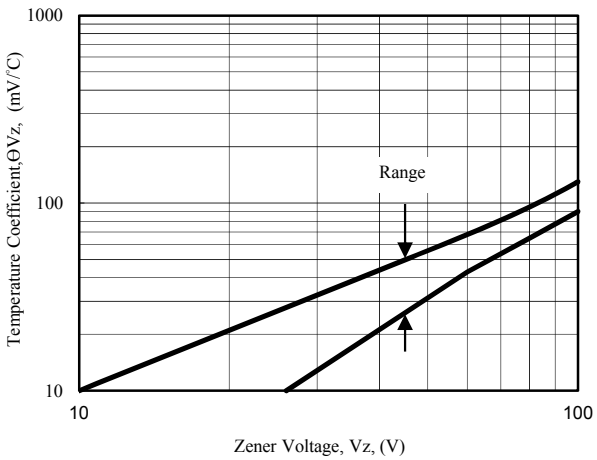


Fig. 2 - Temperature Coefficients v.s. Zener Voltage

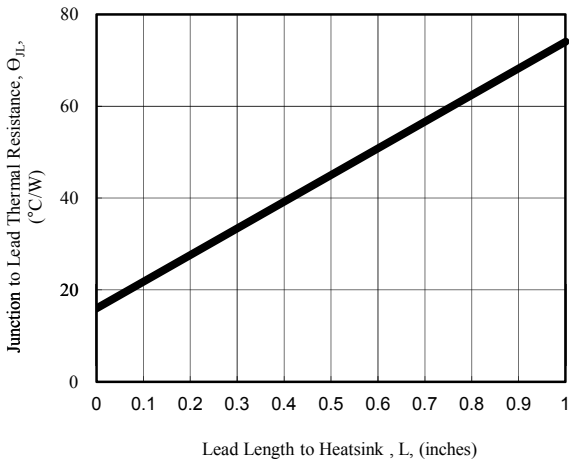


Fig. 3 - Typical Thermal Resistance v.s. Lead Length

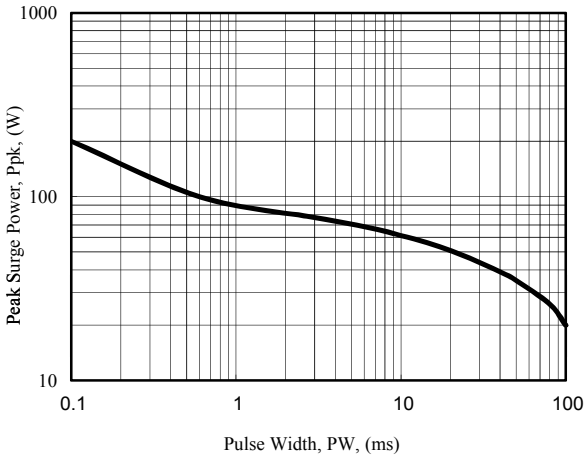


Fig. 4 - Maximum Surge Power

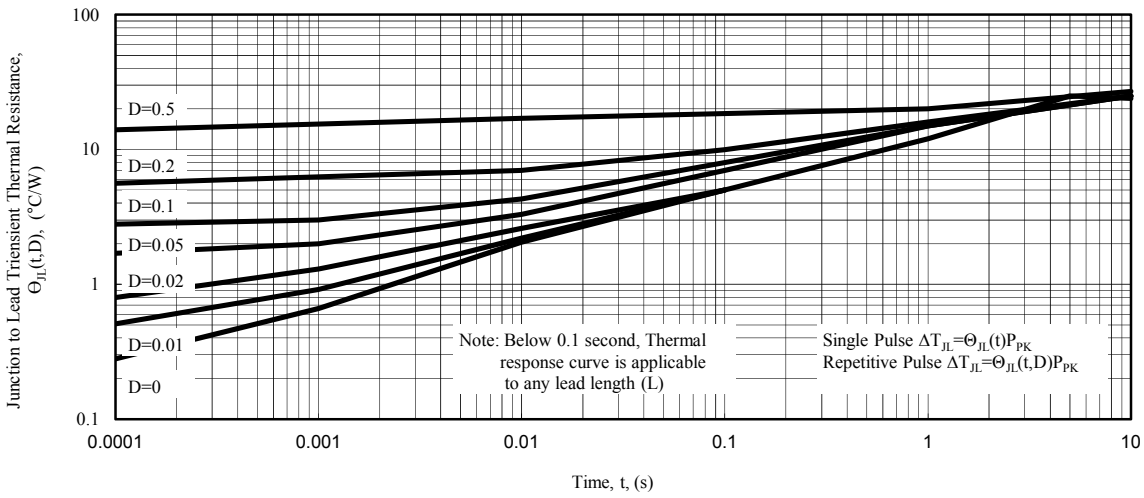
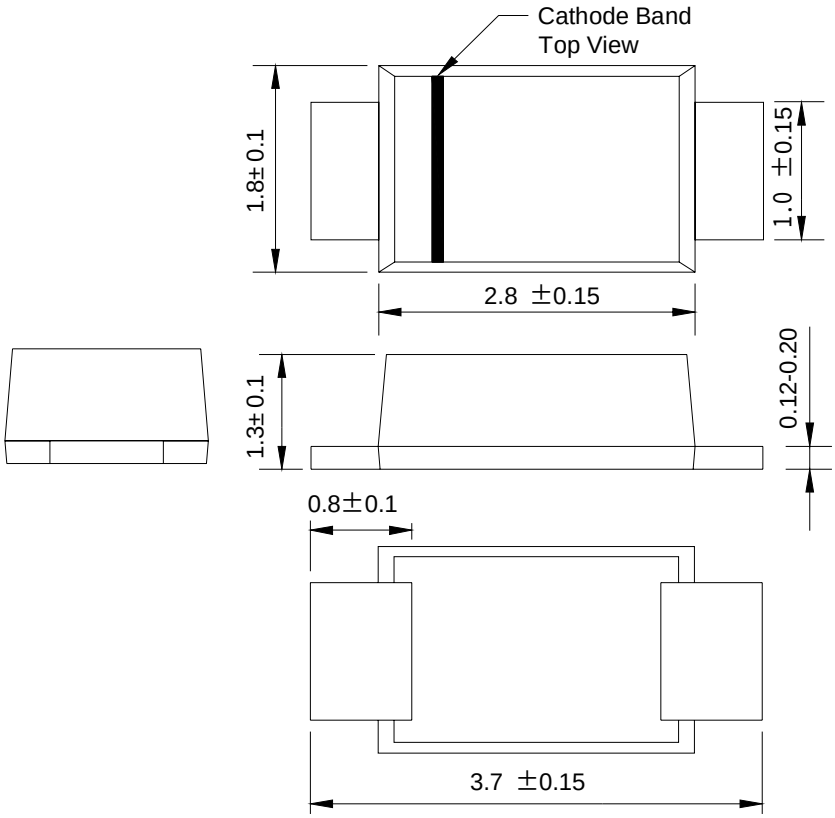


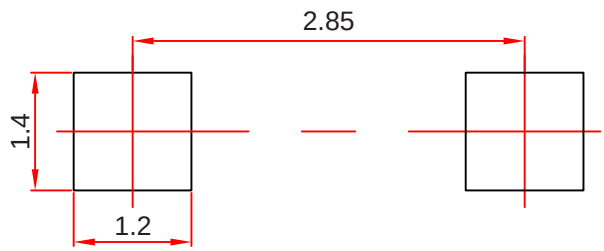
Fig. 5 - Typical Thermal Response L, Lead Length=3/8inch

SOD-123FL Package Outline Dimensions



Dimensions in millimeters

SOD-123FL Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

NOTICE

SZCJ reserves the right to make modifications,enha nts,improvements,corrections or other es without further notice to any product herein.SZCJ does not assume any liability arising out of the application or use of any product described .

Reel Taping Specifications For Surface Mount Devices-SOD-123FL

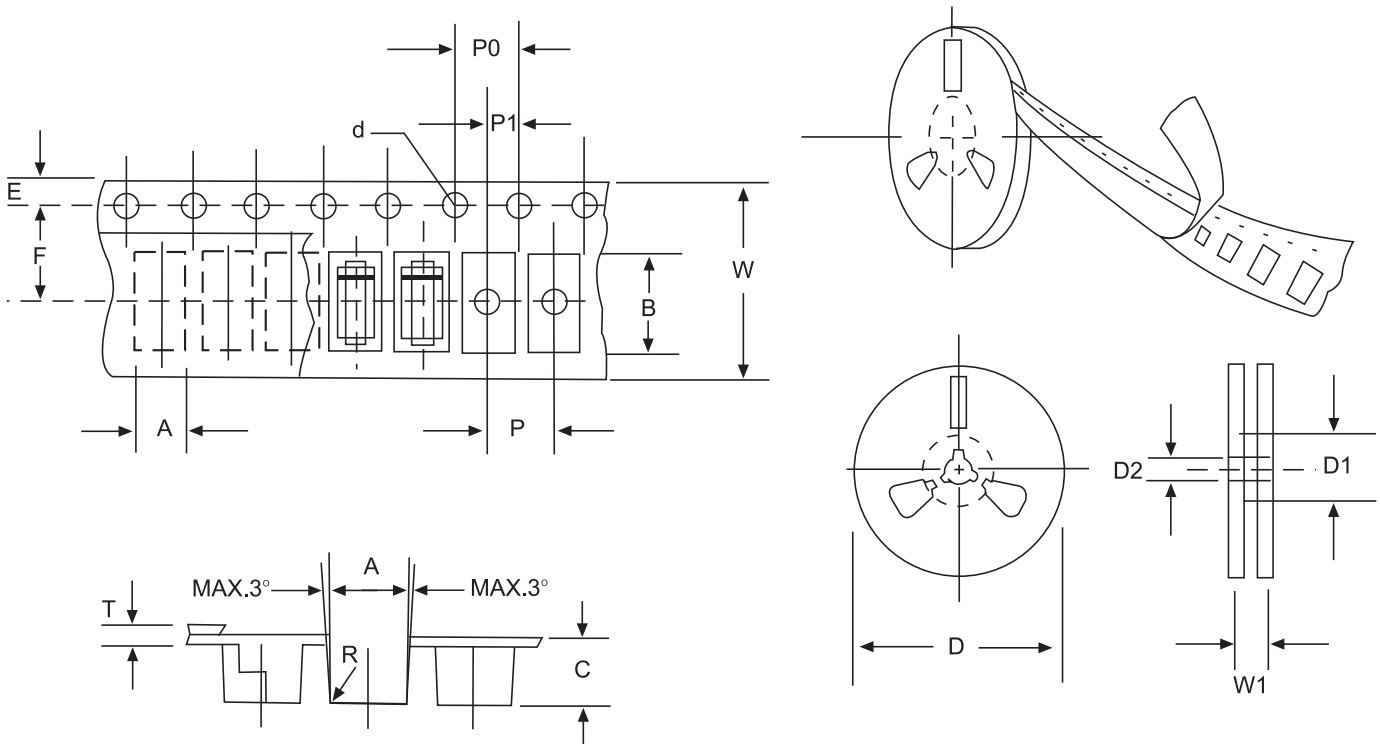


FIG:CONFIGURATION OF SURFACE MOUNTED DEVICES TAPING

ITEM	SYMBOL	SOD-123FLmm(inch)
Carrier width	A	2.05±0.1(0.081±0.004)
Carrier length	B	3.95±0.1(0.156±0.004)
Carrier depth	C	1.45±0.1(0.057±0.004)
Sprocket hole	d	1.55±0.05(0.061±0.002)
Reel outside diameter	D	178±2.0(7.0±0.079)
Reel inner diameter	D1	54±1.0(2.13±0.039)
Feed hole diameter	D2	13±0.5(0.512±0.020)
Strocket hole position	E	1.75±0.1(0.069±0.004)
Punch hole position	F	3.50±0.1(0.138±0.002)
Punch hole pitch	P	4.0±0.1(0.157±0.004)
Sprocket hole pitch	P0	4.0±0.1(0.157±0.004)
Embossment center	P1	2.0±0.1(0.079±0.004)
Totall tape thickness	T	0.21±0.25(0.008±0.010)
Tape width	W	8.0±0.2(0.315±0.008)
Reel width	W1	10.0±2.0(0.394±0.079)

NOTE:Devices are packed in accordance with EIA standard RS-481-A and specification given above.