SMF *** Series

GLASS PASSIVATED JUNCTION Zener voltage regulator diodes , 1.0 Watt Steady State

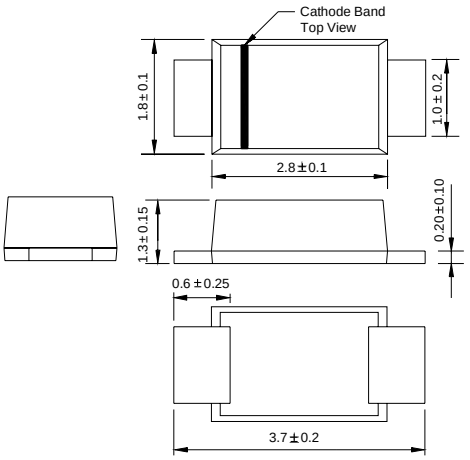
Features

- Glass passivated chip
- Low leakage
- Built-in strain relief
- Low inductance
- High peak reverse power dissipation
- Lead (Pb)-free component
- For use in stabilizing and clipping with high power rating

Mechanical Data

- Case: Molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Solderable per MIL-STD-750, method 2026
- Polarity: Color band denotes cathode end
- Mounting position: Any
- Weight: 0.0007 ounce, 0.02 gram

SOD-123FL



Dimensions in millimeters

Maximum Ratings(T_A=25℃ unless otherwise noted)

Parameter	Symbol	Value	UNIT
DC power dissipation at T_L = 50 °C(1)	P_D	1	W
Maximum forward voltage at I_F = 200 mA	V_F	1.5	V
Maximum thermal resistance junction to ambient air(2)	$R_{\theta JA}$	170	°C/W
Junction temperature range	T_J	- 55 to + 150	°C
Storage temperature range	T_{STG}	- 55 to + 150	°C

Note:

(1) T_L = Lead temperature at 0.3mm from body

(2) Valid provided that leads are kept at ambient temperature at a distance of 10 mm from case

Electrical Characteristics(T_A=25℃ unless otherwise noted)

Part Number	Device Marking Code	Nominal Zener Voltage		Maximum Zener Impedance			Maximum Reverse Leakage Current		Maximum DC Zener Current	Maximum Surge Current
		V_Z @ I_{ZT}	I_{ZT}	Z_{ZT} @ I_{ZT}	Z_{ZK} @ I_{ZK}	I_{ZK}	I_R @ V_R		I_{ZM}	I_{RM}
		(V)	(mA)	(Ω)	(Ω)	(mA)	(μA)	(V)	(mA)	(mApk)
SMF4728A	728A	3.3	76.0	10.0	400	1.00	100.0	1.0	274.0	1370
SMF4729A	729A	3.6	69.0	10.0	400	1.00	100.0	1.0	251.0	1255
SMF4730A	730A	3.9	64.0	9.0	400	1.00	50.0	1.0	232.0	1160
SMF4731A	731A	4.3	58.0	9.0	400	1.00	10.0	1.0	210.0	1050
SMF4732A	732A	4.7	53.0	8.0	500	1.00	10.0	1.0	192.0	960
SMF4733A	733A	5.1	49.0	7.0	550	1.00	10.0	1.0	177.0	885
SMF4734A	734A	5.6	45.0	5.0	600	1.00	10.0	2.0	161.0	805
SMF4735A	735A	6.2	41.0	2.0	700	1.00	10.0	3.0	146.0	730
SMF4736A	736A	6.8	37.0	3.5	700	1.00	5.0	4.0	133.0	660
SMF4737A	737A	7.5	34.0	4.0	700	0.50	5.0	5.0	121.0	605
SMF4738A	738A	8.2	31.0	4.5	700	0.50	5.0	6.0	110.0	550
SMF4739A	739A	9.1	28.0	5.0	700	0.50	0.5	7.0	100.0	500
SMF4740A	740A	10.0	25.0	7.0	700	0.25	0.5	7.6	91.0	454
SMF4741A	741A	11.0	23.0	8.0	700	0.25	0.1	8.4	83.0	414
SMF4742A	742A	12.0	21.0	9.0	700	0.25	0.1	9.1	76.0	380
SMF4743A	743A	13.0	19.0	10.0	700	0.25	0.1	9.9	69.0	344
SMF4744A	744A	15.0	17.0	14.0	700	0.25	0.1	11.4	61.0	305
SMF4745A	745A	16.0	15.5	16.0	700	0.25	0.1	12.2	57.0	285
SMF4746A	746A	18.0	14.0	20.0	750	0.25	0.1	13.7	50.0	250
SMF4747A	747A	20.0	12.5	22.0	750	0.25	0.1	15.2	45.0	225
SMF4748A	748A	22.0	11.5	23.0	750	0.25	0.1	16.7	41.0	205
SMF4749A	749A	24.0	10.5	25.0	750	0.25	0.1	18.2	38.0	190
SMF4750A	750A	27.0	9.5	35.0	750	0.25	0.1	20.6	34.0	170
SMF4751A	751A	30.0	8.5	40.0	1000	0.25	0.1	22.8	30.0	150
SMF4752A	752A	33.0	7.5	45.0	1000	0.25	0.1	25.1	27.0	135
SMF4753A	753A	36.0	7.0	50.0	1000	0.25	0.1	27.4	25.0	125
SMF4754A	754A	39.0	6.5	60.0	1000	0.25	0.1	29.7	23.0	115
SMF4755A	755A	43.0	6.0	70.0	1500	0.25	0.1	32.7	22.0	110
SMF4756A	756A	47.0	5.5	80.0	1500	0.25	0.1	35.8	19.0	95
SMF4757A	757A	51.0	5.0	95.0	1500	0.25	0.1	38.8	18.0	90
SMF4758A	758A	56.0	4.5	110.0	2000	0.25	0.1	42.6	16.0	80
SMF4759A	759A	62.0	4.0	125.0	2000	0.25	0.1	47.1	14.0	70
SMF4760A	760A	68.0	3.7	150.0	2000	0.25	0.1	51.7	13.0	65
SMF4761A	761A	75.0	3.3	175.0	2000	0.25	0.1	56.0	12.0	60
SMF4762A	762A	82.0	3.0	200.0	3000	0.25	0.1	62.2	11.0	55
SMF4763A	763A	91.0	2.8	250.0	3000	0.25	0.1	69.2	10.0	50
SMF4764A	764A	100.0	2.5	350.0	3000	0.25	0.1	76.0	9.0	45
SMF1110A	110A	110.0	2.3	450.0	4000	0.25	0.1	83.6	8.6	40
SMF1120A	120A	120.0	2.0	550.0	4500	0.25	0.1	91.2	7.8	37
SMF1130A	130A	130.0	1.9	700.0	5000	0.25	0.1	98.8	7.0	34
SMF1150A	150A	150.0	1.7	1000.0	6000	0.25	0.1	114.0	6.4	30
SMF1160A	160A	160.0	1.6	1100.0	6500	0.25	0.1	121.6	5.8	28
SMF1180A	180A	180.0	1.4	1200.0	7000	0.25	0.1	136.8	5.2	25
SMF1200A	200A	200.0	1.2	1900.0	9990	0.25	0.1	152.0	4.7	22
SMF1220A	220A	220.0	1.0	1600.0	8000	0.25	0.1	167.2	4.0	20
SMF1240A	240A	240.0	0.9	1800.0	8500	0.25	0.1	182.4	3.8	19
SMF1250A	250A	250.0	0.9	2000.0	9000	0.25	0.1	190.0	3.6	18
SMF1270A	270A	270.0	0.8	2100.0	9000	0.25	0.1	205.0	3.3	16
SMF1300A	300A	300.0	0.8	2300.0	9500	0.25	0.1	228.0	3.0	15
SMF1330A	330A	330.0	0.7	2500.0	9500	0.25	0.1	250.2	2.7	13

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 JEDEC

Ratings and Characteristics Curves (T_A=25℃ unless otherwise noted)

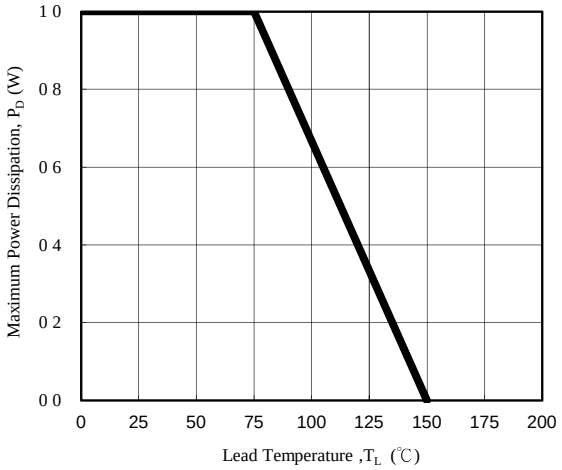


Fig. 1 - Power Temperature Derating Curve

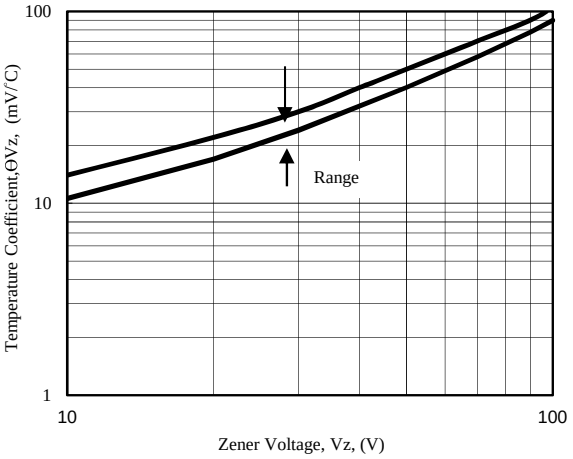


Fig. 2 - Temperature Coefficients v.s. Zener Voltage

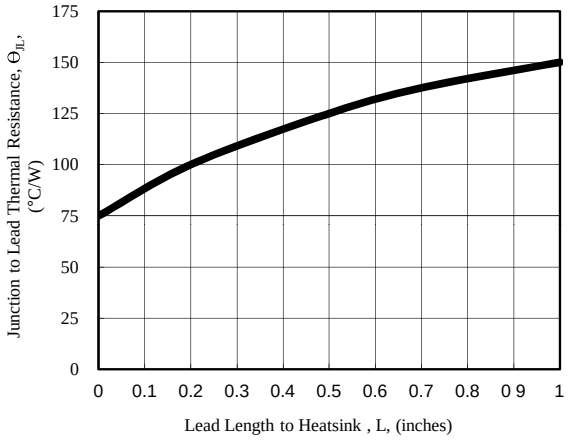
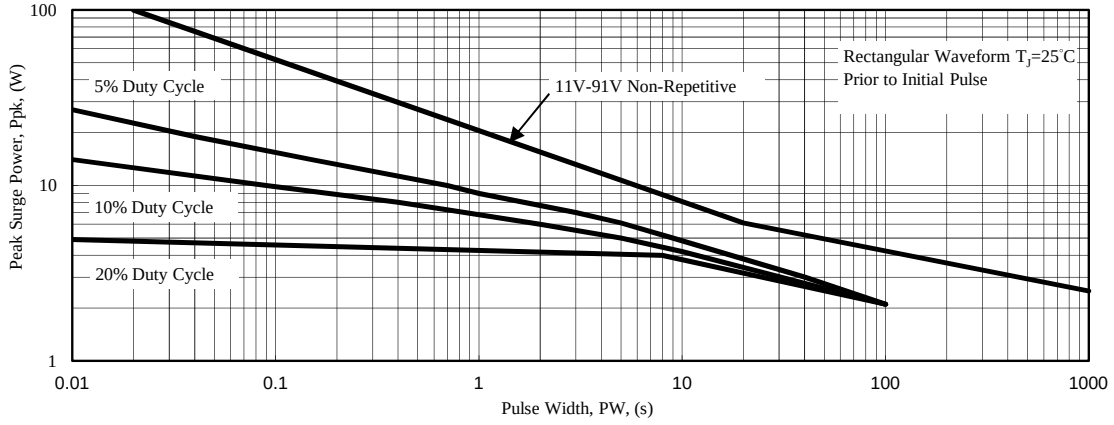
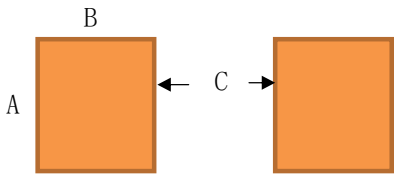


Fig. 3 - Typical Thermal Resistance v s. Lead Length



Fg. 4 - Maximum Surge Power

Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SOD123-FL	0.044(1.10)	0 040(1.00)	0.079(2.00)