

# SML4728A THRU SML1330A

## 1000mW Surface Mount Zener Diodes - 3.3V-330V

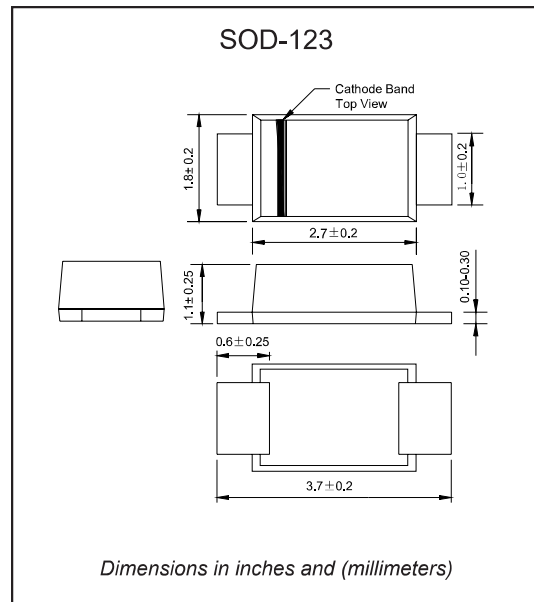
### Features

- Batch process design, excellent power dissipation offers better reverse leakage current and thermal resistance.
- Standard zener voltage tolerance  $\pm 5\%$ .
- Low inductance.
- Low profile package.
- Built-in strain relief.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228
- Compliant to Halogen-free

### Mechanical data

- Epoxy : UL94-V0 rated flame retardant
- Case : Molded plastic, JEDEC SOD-123
- Terminals :Plated terminals, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Mounting Position : Any
- Weight : Approximated 0.02 gram

### Package outline



### Maximum ratings (at $T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 200 \text{ mA}$	$V_F$			1.20	V
Power Dissipation	at $T_L=75^\circ\text{C}$	$P_D$			1000	mW
Thermal resistance	Junction to case(Note 1) Junction to ambient(Note 1)	$R_{\theta JC}$ $R_{\theta JA}$		35 55		$^\circ\text{C}/\text{W}$
Operating junction temperature range		$T_J$	-55		+150	$^\circ\text{C}$
Storage temperature range		$T_{STG}$	-65		+175	$^\circ\text{C}$

Note : 1. Mounted on 0.2"x0.2"(5x5mm)FR-4 PCB

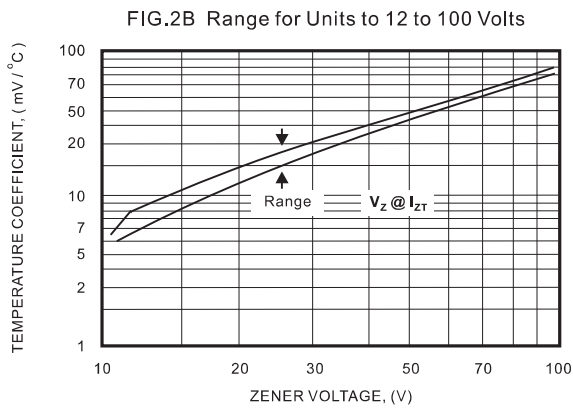
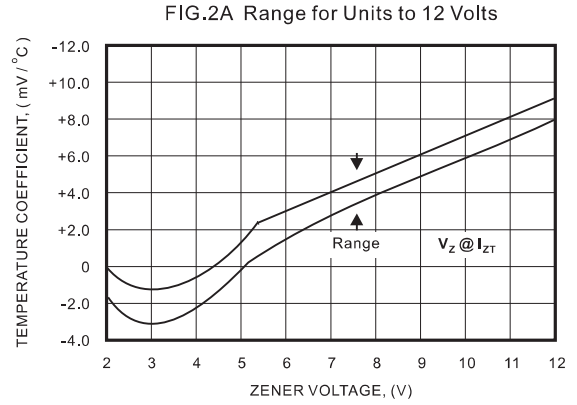
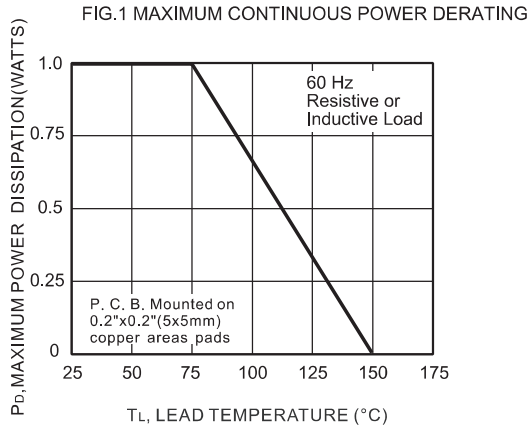
SML4728A THRU SML1330A

Electrical characteristics (at T<sub>A</sub>=25°C unless otherwise noted)

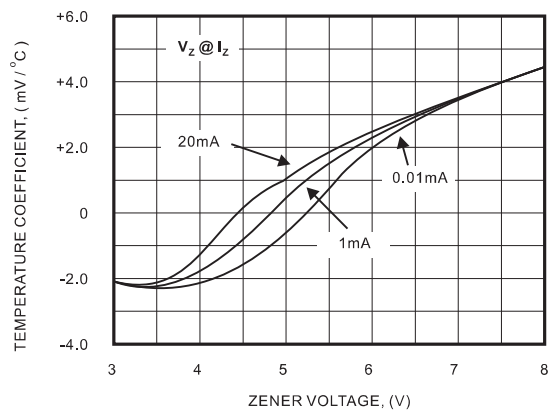
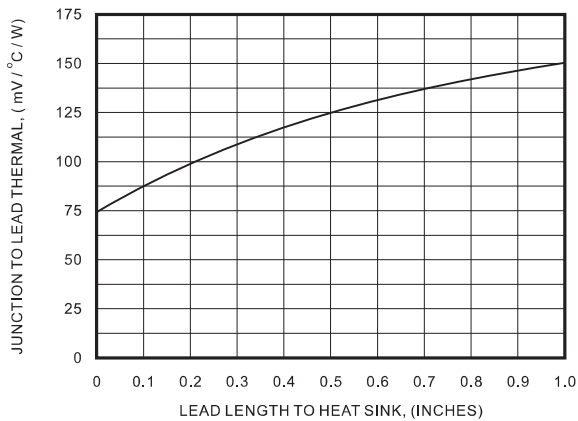
Part No.	Marking code	Zener voltage			Test current	Zener impedance			Leakage current		Maximum Surge current
		V <sub>Z</sub> @ I <sub>ZT</sub> (Volts)				I <sub>ZT</sub>	Z <sub>ZT</sub> @ I <sub>ZT</sub>	Z <sub>ZK</sub> @ I <sub>ZK</sub>	I <sub>ZK</sub>	I <sub>R</sub>	
		Min.	Nom.	Max.	mA	(Ω)Max	(Ω)Max	mA	(uA)Max	Volts	mApk
SML4728A	Z3V3	3.14	3.3	3.47	76	10	400	1.00	100	1.0	1380
SML4729A	Z3V6	3.42	3.6	3.78	69	10	400	1.00	100	1.0	1260
SML4730A	Z3V9	3.71	3.9	4.10	64	9	400	1.00	50	1.0	1190
SML4731A	Z4V3	4.09	4.3	4.52	58	9	400	1.00	10	1.0	1070
SML4732A	Z4V7	4.47	4.7	4.94	53	8	500	1.00	10	1.0	970
SML4733A	Z5V1	4.85	5.1	5.36	49	7	550	1.00	10	1.0	890
SML4734A	Z5V6	5.32	5.6	5.88	45	5	600	1.00	10	2.0	810
SML4735A	Z6V2	5.89	6.2	6.51	41	2	700	1.00	10	3.0	730
SML4736A	Z6V8	6.46	6.8	7.14	37	3.5	700	1.00	10	4.0	660
SML4737A	Z7V5	7.13	7.5	7.88	34	4.0	700	0.50	10	5.0	605
SML4738A	Z8V2	7.79	8.2	8.61	31	4.5	700	0.50	10	6.0	550
SML4739A	Z9V1	8.65	9.1	9.56	28	5	700	0.50	10	7.0	500
SML4740A	Z10	9.50	10	10.50	25	7	700	0.25	10	7.6	454
SML4741A	Z11	10.45	11	11.55	23	8	700	0.25	5	8.4	414
SML4742A	Z12	11.40	12	12.60	21	9	700	0.25	5	9.1	380
SML4743A	Z13	12.35	13	13.65	19	10	700	0.25	5	9.9	344
SML4744A	Z15	14.25	15	15.75	17	14	700	0.25	5	11.4	304
SML4745A	Z16	15.20	16	16.80	15.5	16	700	0.25	5	12.2	285
SML4746A	Z18	17.10	18	18.90	14	20	750	0.25	5	13.7	250
SML4747A	Z20	19.00	20	21.00	12.5	22	750	0.25	5	15.2	225
SML4748A	Z22	20.90	22	23.10	11.5	23	750	0.25	5	16.7	205
SML4749A	Z24	22.80	24	25.20	10.5	25	750	0.25	5	18.2	190
SML4750A	Z27	25.65	27	28.35	9.5	35	750	0.25	5	20.6	170
SML4751A	Z30	28.50	30	31.50	8.5	40	1000	0.25	5	22.8	150
SML4752A	Z33	31.35	33	34.65	7.5	45	1000	0.25	5	25.1	135
SML4753A	Z36	34.20	36	37.80	7.0	50	1000	0.25	5	27.4	125
SML4754A	Z39	37.05	39	40.95	6.5	60	1000	0.25	5	29.7	115
SML4755A	Z43	40.85	43	45.15	6.0	70	1500	0.25	5	32.7	110
SML4756A	Z47	44.65	47	49.35	5.5	80	1500	0.25	5	35.8	95
SML4757A	Z51	48.45	51	53.55	5.0	95	1500	0.25	5	38.8	90
SML4758A	Z56	53.20	56	58.80	4.5	110	2000	0.25	5	42.6	80
SML4759A	Z62	58.90	62	65.10	4.0	125	2000	0.25	5	47.1	70
SML4760A	Z68	64.60	68	71.40	3.7	150	2000	0.25	5	51.7	65
SML4761A	Z75	71.25	75	78.75	3.3	175	2000	0.25	5	56.0	60
SML4762A	Z82	77.90	82	86.10	3.0	200	3000	0.25	5	62.2	55
SML4763A	Z91	86.45	91	95.55	2.8	250	3000	0.25	5	69.2	50
SML4764A	Z100	95.00	100	105.0	2.5	350	3000	0.25	5	76.0	45
SML1110A	Z110	104.5	110	115.5	2.3	450	4000	0.25	5	83.6	40
SML1120A	Z120	114.0	120	126.0	2.0	550	4500	0.25	5	91.2	37
SML1130A	Z130	123.5	130	136.5	1.9	700	5000	0.25	5	98.8	34
SML1150A	Z150	142.5	150	157.5	1.7	1000	6000	0.25	5	114.0	30
SML1160A	Z160	152.0	160	168.0	1.6	1100	6500	0.25	5	121.6	28
SML1180A	Z180	171.0	180	189.0	1.4	1200	7000	0.25	5	136.8	25
SML1200A	Z200	190.0	200	210.0	1.2	1900	9990	0.25	5	152.0	22
SML1220A	Z220	209.0	220	231.0	1.0	1600	8000	0.25	5	167.2	20
SML1240A	Z240	228.0	240	252.0	0.9	1800	8500	0.25	5	182.4	19
SML1250A	Z250	237.5	250	262.5	0.9	2000	9000	0.25	5	190.0	18
SML1270A	Z270	256.5	270	283.5	0.8	2100	9000	0.25	5	205.0	16
SML1300A	Z300	285.0	300	315.0	0.8	2300	9500	0.25	5	228.0	15
SML1330A	Z330	313.5	330	346.5	0.7	2500	9500	0.25	5	250.2	13

Note : 5% tolerance of Zener voltage

## Rating and characteristic curves ( SML4728A THRU SML1330A )



**Fig. 3 Temperature Coefficients (-55°C to +150°C temperature change; 90% of the units are in the ranges indicated.)**



## Rating and characteristic curves ( SML4728A THRU SML1330A )

Fig 4. Effect of Zener Voltage

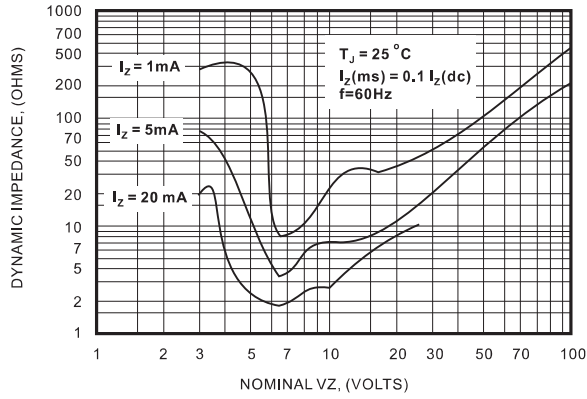


Fig 5. Effect of Zener Current

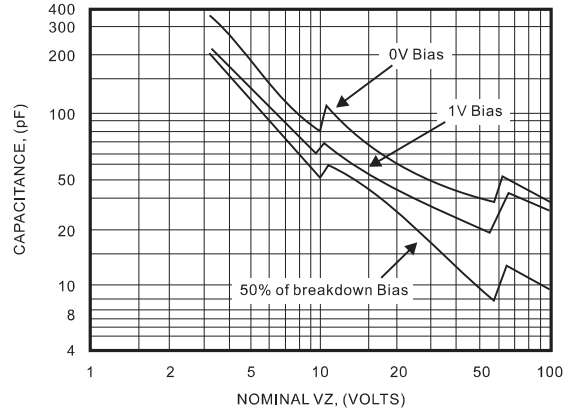
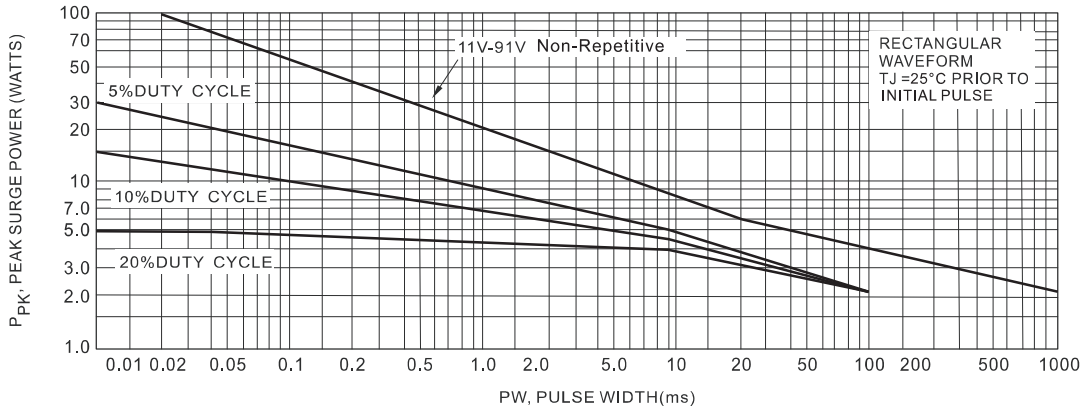




Fig 6. Maximum surge power

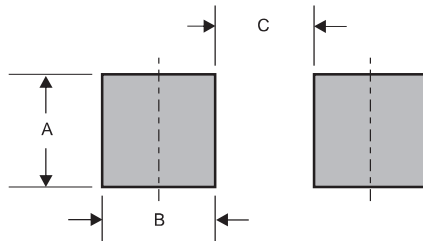


**SML4728A THRU SML1330A**

**Pinning information**

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

**Suggested solder pad layout**



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SOD-123	0.075 (1.90)	0.055 (1.40)	0.075 (1.90)

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