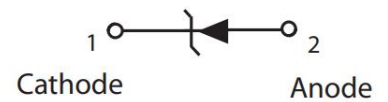


Features

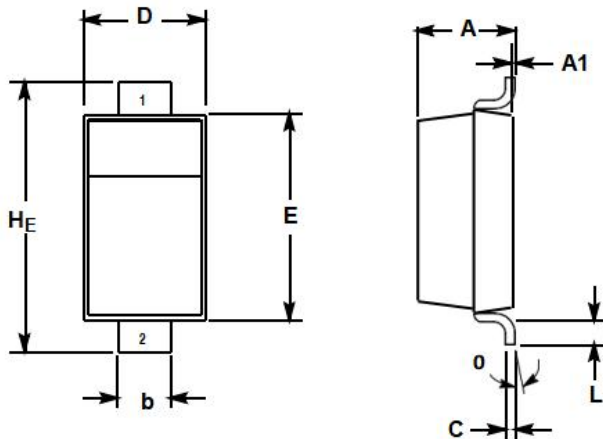
- ◆ Planar Die Construction
- ◆ 500mw Power Dissipation
- ◆ General Purpose, Medium Current
- ◆ Ideally Suited for Automated Assembly Processes
- ◆ Zener Breakdown Voltage Range 2.0V to 75V
- ◆ High Temperature soldering guaranteed: 260°C/40 seconds at terminals
- ◆ Plastic package has underwriters laboratory flammability 94V-0
- ◆ Meets MSL level 1, per J-STD-020.
- ◆ Meet Halogen free and RoHS compliant



Mechanical Data

- ◆ Case : SOD- 123 Molded plastic
- ◆ Polarity: Cathode Indicated by Polarity Band

Dimensions (SOD-123)



Symbol	Dimension			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.94	1.35	0.037	0.053
A1	0.00	0.10	0.000	0.004
b	0.51	0.71	0.020	0.028
c	---	0.15	---	0.006
D	1.40	1.80	0.055	0.071
E	2.54	2.84	0.100	0.112
HE	3.56	3.86	0.140	0.152
L	0.25	---	0.010	---
0	0	10°	0	10°

Maximum Ratings and Thermal Characteristics (T_A=25°C Unless Otherwise Noted.)

Characteristics	Symbol	Value	Unit
Power Dissipation	P _D	500	mW
Thermal Resistance,Junction to Ambient Air(Note1)	R _{θJA}	340	°C/W
Forward Voltage @ I _F = 10 mA	V _F	0.9	V
Operating and Storage Temperature Range	T _J ,T _{STG}	-55 to +150	°C

- Notes:**
- 1. Thermal resistance from junction to ambient at P.C.B.mounted with 2.0" X 2.0" (5 X 5 cm) copper areas pads.
 - 2. V_{ZT} is tested with pulses (20 ms)

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

Part Number	Zener Voltage(Note2)				Dynamic Impedance	Maximum Reverse Current	
	$V_Z @ I_{ZT}$			I_{ZT}	$Z_{ZT}@I_{ZT}$	I_R	@ V_R
	Nom(V)	Min(V)	Max (V)	(mA)	Max(Ω)	Max(μA)	(V)
ZD123A2V0	2.0	1.8	2.15	5	100	120	0.5
ZD123A2V2	2.2	2.08	2.33	5	100	120	0.7
ZD123A2V4	2.4	2.28	2.56	5	100	120	1
ZD123A2V7	2.7	2.5	2.9	5	110	120	1
ZD123A3V0	3.0	2.8	3.2	5	120	50	1
ZD123A3V3	3.3	3.1	3.5	5	130	20	1
ZD123A3V6	3.6	3.4	3.8	5	130	10	1
ZD123A3V9	3.9	3.7	4.1	5	130	5	1
ZD123A4V3	4.3	4	4.6	5	130	5	1
ZD123A4V7	4.7	4.4	5	5	130	2	1
ZD123A5V1	5.1	4.8	5.4	5	130	2	1.5
ZD123A5V6	5.6	5.2	6	5	80	1	2.5
ZD123A6V2	6.2	5.8	6.6	5	50	1	3
ZD123A6V8	6.8	6.4	7.2	5	30	0.5	3.5
ZD123A7V5	7.5	7	7.9	5	30	0.5	4
ZD123A8V2	8.2	7.7	8.7	5	30	0.5	5
ZD123A9V1	9.1	8.5	9.6	5	30	0.5	6
ZD123A10	10	9.4	10.6	5	30	0.1	7
ZD123A11	11	10.4	11.6	5	30	0.1	8
ZD123A12	12	11.4	12.7	5	35	0.1	9
ZD123A13	13	12.4	14.1	5	35	0.1	10
ZD123A15	15	13.8	15.6	5	40	0.1	11
ZD123A16	16	15.3	17.1	5	40	0.1	12
ZD123A18	18	16.8	19.1	5	45	0.1	13
ZD123A20	20	18.8	21.2	5	50	0.1	15
ZD123A22	22	20.8	23.3	5	55	0.1	17
ZD123A24	24	22.8	25.6	5	60	0.1	19
ZD123A27	27	25.1	28.9	5	70	0.1	21
ZD123A30	30	28	32	5	80	0.1	23
ZD123A33	33	31	35	5	80	0.1	25
ZD123A36	36	34	38	5	90	0.1	27
ZD123A39	39	37	41	2.5	100	2	30
ZD123A43	43	40	46	2.5	130	2	33
ZD123A47	47	44	50	2.5	150	2	36
ZD123A51	51	48	54	2.5	180	1	39
ZD123A56	56	52	60	2.5	180	1	43
ZD123A62	62	58	66	2.5	200	0.2	47
ZD123A68	68	64	72	2.5	250	0.2	52
ZD123A75	75	70	79	2.5	300	0.2	57

Ratings and Characteristic Curves ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Figure 1. Maximum Continuous Power Derating

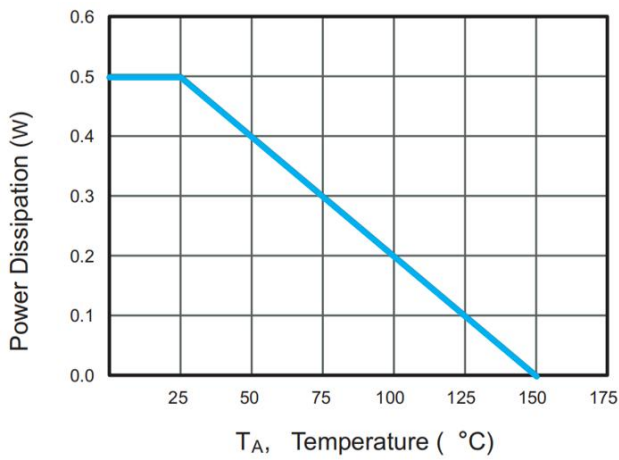


Figure 2. Typical Transient Thermal Impedance

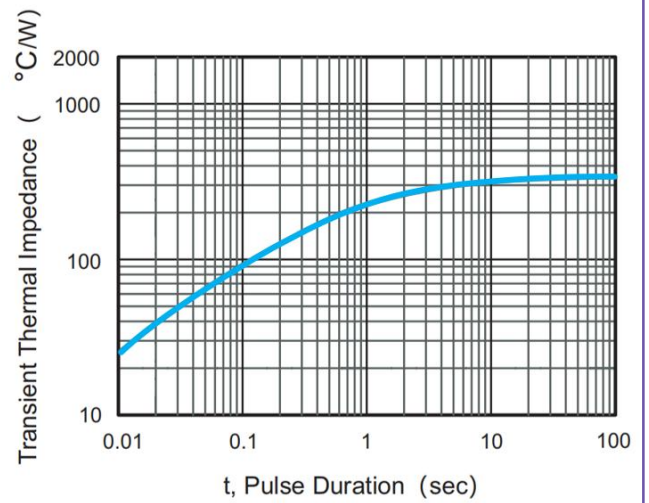


Figure 3. Zener voltage vs Zener current

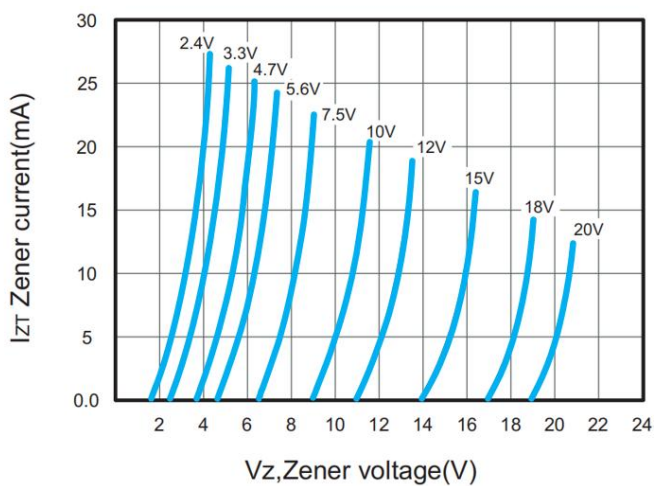


Figure 4. Zener voltage vs Zener current

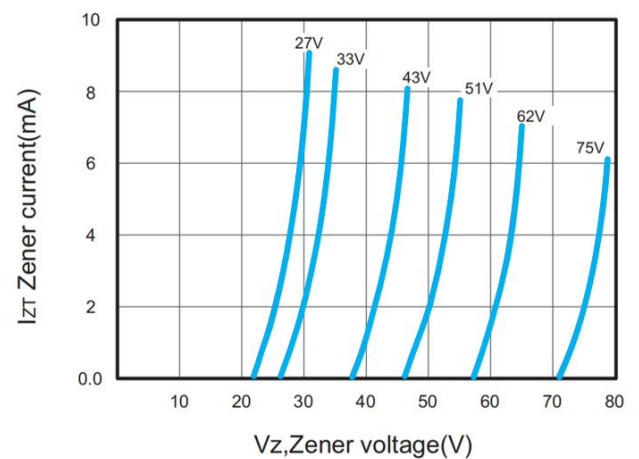
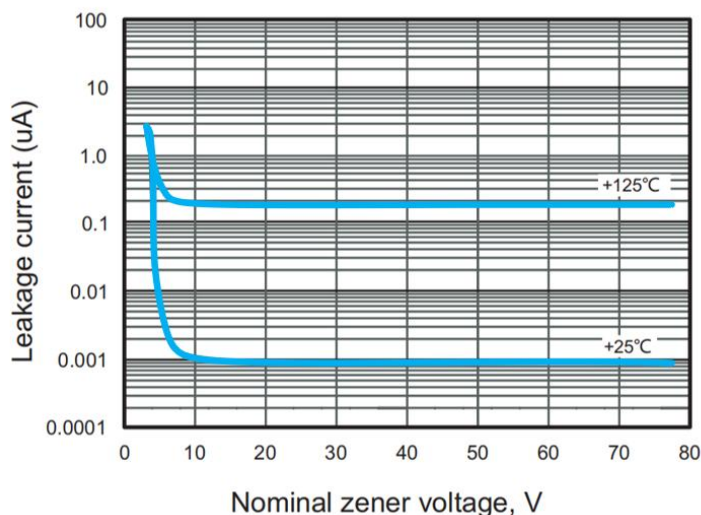
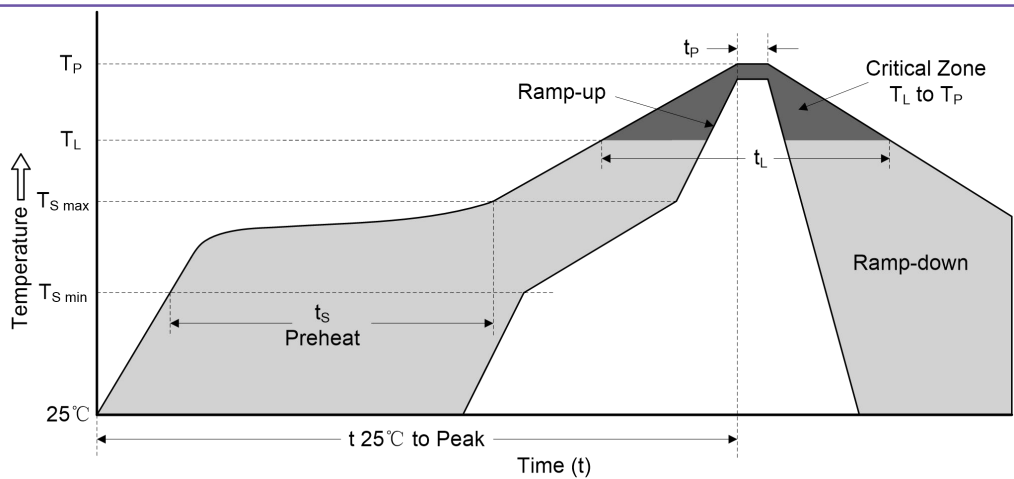


Figure 5. Typical leakage current



Reflow Soldering Parameters



Reflow Condition		Lead-free Assembly
Pre heat	-Temperature Min ($T_{S\ min}$)	150°C
	-Temperature Max ($T_{S\ max}$)	200°C
	-Time (min to max) (t_s)	60-180 seconds
Average ramp-up rate (T_L to T_P)		3°C/second max.
$T_{S\ max}$ to T_L -Ramp-up Rate		3°C/second max.
Reflow	-Temperature (T_L) (Liquidus)	217°C
	-Time (min to max) (t_s)	60-150 seconds
Peak Temperature (T_P)		260(+0/-5)°C
Time within 5°C of actual Peak Temperature (t_P)		20-40 seconds
Ramp-down Rate		6°C/second max.
Time 25°C to Peak Temperature(T_P)		8 minutes max.
Do not exceed		260°C