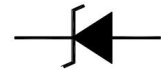


Features

- ◆ 200mw Power Dissipation
- ◆ Planar Die Construction
- ◆ General Purpose, Medium Current
- ◆ Ideally Suited for Automated Assembly Processes
- ◆ Zener Breakdown Voltage Range 2.4V to 75V
- ◆ High Temperature soldering guaranteed: 260°C/30 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

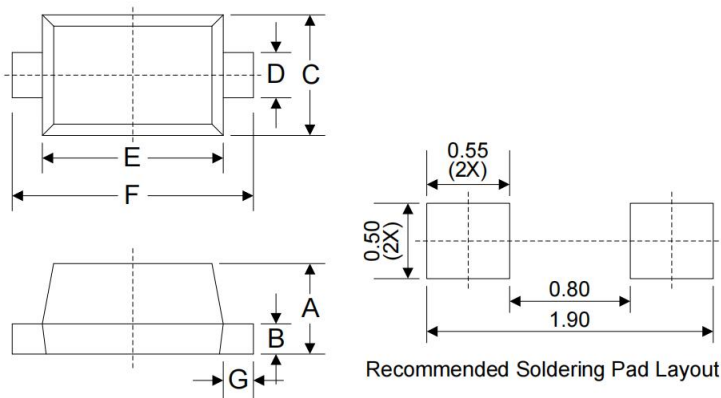


Mechanical Data

- ◆ Case : SOD- 523 Molded plastic
- ◆ Polarity: Cathode Indicated by Polarity Band

Dimensions (SOD-523)

Symbol	Dimension			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.51	0.77	0.020	0.030
B	0.08	0.15	0.003	0.006
C	0.75	0.99	0.030	0.039
D	0.25	0.35	0.010	0.014
E	1.10	1.30	0.043	0.051
F	1.50	1.70	0.059	0.067
G	0.15	0.25	0.006	0.010



Maximum Ratings and Thermal Characteristics($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Characteristics	Symbol	Value	Unit
Power Dissipation(Note1)	P_D	200	mW
Forward Voltage @ $I_F=10\text{ mA}$	V_F	0.9	V
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^{\circ}\text{C}$

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

Part Number	Zener Voltage(Note1)				Maximum Zener Impedance			Maximum Reverse Current	
	$V_Z @ I_{ZT}$			I_{ZT}	$Z_{ZT}@I_{ZT}$	$Z_{ZK}@I_{ZK}$		I_R	@ V_R
	Nom(V)	Min(V)	Max (V)	(mA)	(Ω)	(Ω)	mA	(μA)	(V)
ZD523A2V4	2.4	2.3	2.5	5	100	1000	1	120	1
ZD523A2V7	2.7	2.6	2.8	5	100	1000	1	120	1
ZD523A3V0	3.0	2.9	3.2	5	95	1000	1	50	1
ZD523A3V3	3.3	3.1	3.5	5	95	1000	1	20	1
ZD523A3V6	3.6	3.4	3.8	5	90	1000	1	10	1
ZD523A3V9	3.9	3.7	4.1	5	90	1000	1	5	1
ZD523A4V3	4.3	4.1	4.5	5	90	1000	1	5	1
ZD523A4V7	4.7	4.5	4.9	5	80	800	1	2	1
ZD523A5V1	5.1	4.8	5.4	5	60	500	1	2	1.5
ZD523A5V6	5.6	5.3	5.9	5	40	200	1	1	2.5
ZD523A6V2	6.2	5.9	6.5	5	10	100	1	1	3
ZD523A6V8	6.8	6.5	7.1	5	15	160	1	0.5	3.5
ZD523A7V5	7.5	7.1	7.9	5	15	160	1	0.5	4
ZD523A8V2	8.2	7.8	8.6	5	15	160	1	0.5	5
ZD523A9V1	9.1	8.6	9.6	5	15	160	1	0.5	6
ZD523A10	10	9.5	10.5	5	20	160	1	0.1	7
ZD523A11	11	10.5	11.6	5	20	160	1	0.1	8
ZD523A12	12	11.4	12.6	5	25	80	1	0.1	9
ZD523A13	13.25	12.6	13.9	5	30	80	1	0.1	10
ZD523A15	15	14.3	15.8	5	30	80	1	0.1	11
ZD523A16	16.2	15.4	17.0	2	40	80	1	0.1	12
ZD523A18	18	17.1	18.9	2	45	80	1	0.1	13
ZD523A20	20	19.0	21.0	2	55	100	1	0.1	15
ZD523A22	22	20.9	23.1	2	55	100	1	0.1	17
ZD523A24	24.2	23.0	25.4	2	70	120	1	0.1	19
ZD523A27	27	25.7	28.4	2	80	300	1	0.1	21
ZD523A30	30	28.5	31.5	2	80	300	1	0.1	23
ZD523A33	33	31.4	34.7	2	80	300	1	0.1	25
ZD523A36	36	34.2	37.8	2	90	500	1	0.1	27
ZD523A39	39	37.1	41.0	2	130	500	1	2	30
ZD523A43	43	40.9	45.2	1	150	500	1	2	33
ZD523A47	47	44.7	49.4	1	170	500	1	2	36
ZD523A51	51	48.5	53.6	1	180	500	1	1	39
ZD523A56	56	53.2	58.8	1	200	500	1	1	43
ZD523A62	62	58.9	65.1	1	215	500	1	0.2	47
ZD523A68	68	64.6	71.4	1	240	500	1	0.2	52
ZD523A75	75	71.3	78.8	1	255	500	1	0.2	57

Notes:1. V_{ZT} is tested with pulses (20 ms)2. A: $\pm 5\%$

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

Figure 1. Maximum Continuous Power Derating

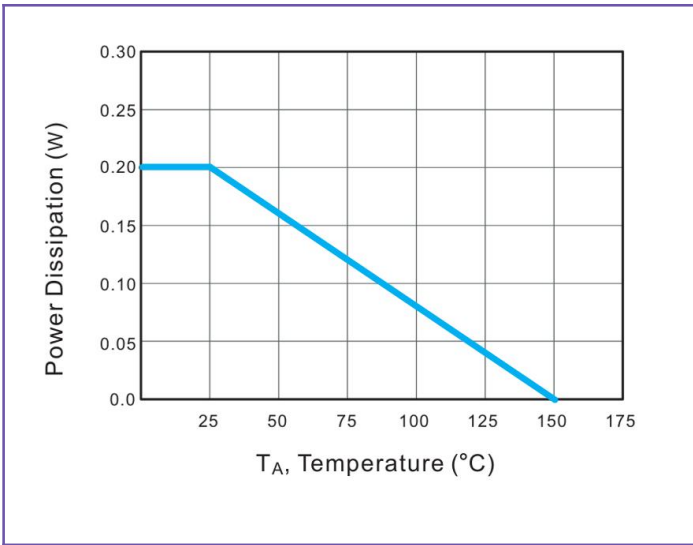


Figure 2. Typical leakage current

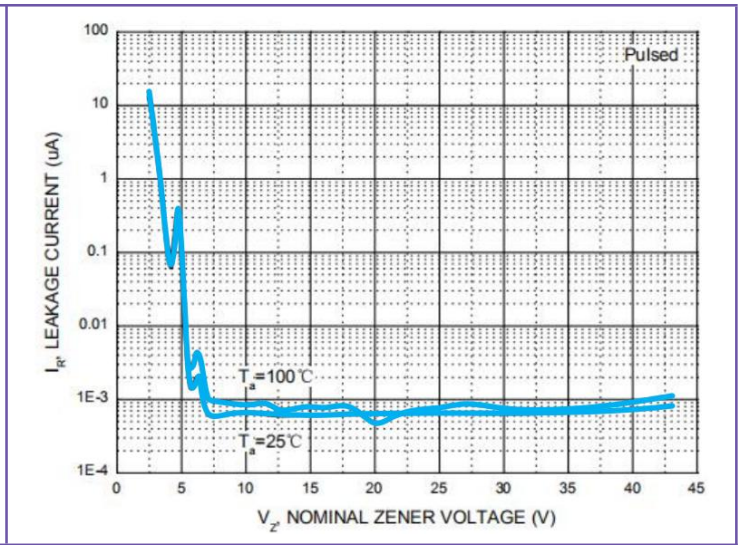


Figure 3. Zener voltage vs Zener current

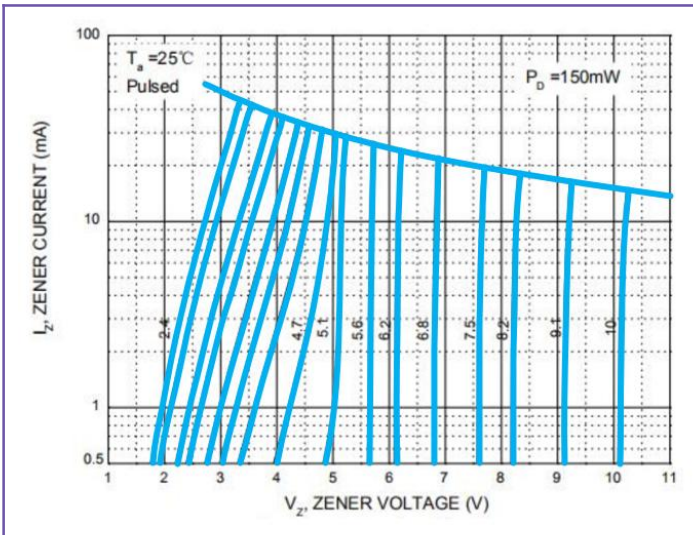
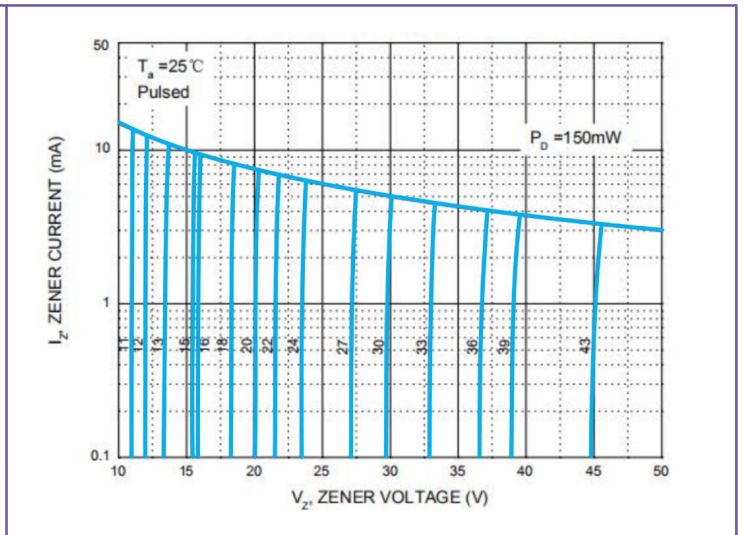
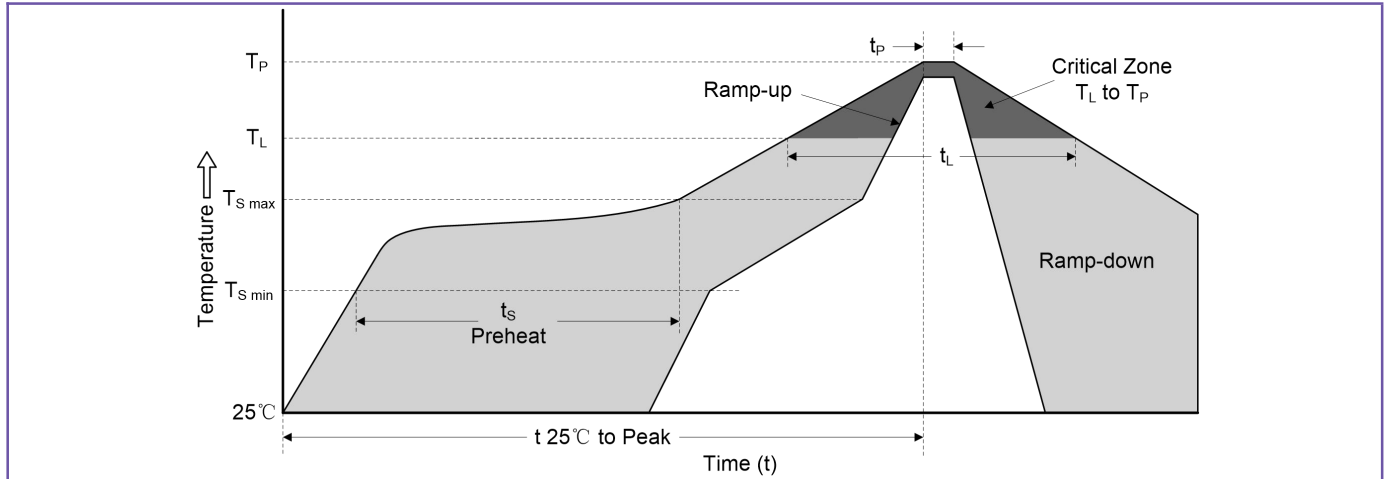


Figure 4. Zener voltage vs Zener current



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)		$3^\circ\text{C}/\text{second max.}$
$T_{S\ max}$ to T_L -Ramp-up Rate		$3^\circ\text{C}/\text{second max.}$
Reflow	-Temperature (T_L) (Liquidus)	217°C
	-Time (min to max) (t_s)	60-150 seconds
Peak Temperature (T_P)		$260(+0/-5)^\circ\text{C}$
Time within 5°C of actual Peak Temperature (t_p)		20-40 seconds
Ramp-down Rate		$6^\circ\text{C}/\text{second max.}$
Time 25°C to Peak Temperature(T_p)		8 minutes max.
Do not exceed		260°C