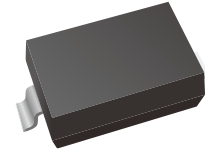


Zener Diodes



Features

- Low Zener Impedance
- 500mW Power Dissipation on Ceramic PCB
- General Purpose, Medium Current
- Ideally Suited for Automated Assembly Processes
- Available in Lead Free Version
- Polarity: Color band denotes cathode end

Functional Diagram



Maximum Ratings ($T_a=25$ unless otherwise Specified)

Characteristic	Symbol	Value	Unit
Forward Voltage (Note 2) @ $I_F = 10\text{mA}$	V_F	0.9	V
Power Dissipation(Note 1)	P_d	500	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	357	$^{\circ}\text{C}/\text{W}$
Operation Junction and Storage Temperature Range	T_J, T_{stg}	-55 ~ +150	$^{\circ}\text{C}$

Electrical Characteristics (Ta=25 unless otherwise Specified)

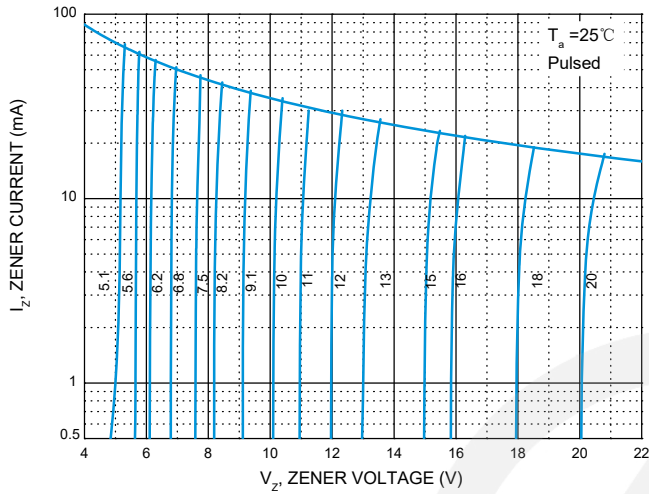
Type Number	Type Code	Zener Voltage Range (Note 2)				Maximum Zener Impedance (Note 3)			Maximum Reverse Current		Typical Temperature Coefficient @I _{ZTC}		Test Current I _{ZTC}
		V _Z @I _{ZT}			I _{ZT}	Z _{ZT} @I _{ZT}	Z _{ZK} @I _{ZK}	I _{ZK}	I _R	V _R	mV/°C		
		Nom(V)	Min(V)	Max(V)	mA	Ω		mA	μA	V	Min	Max	
LT52B3V0	2W2	3.0	2.94	3.06	5	95	600	1.0	10	1.0	-3.5	0	5
LT52B3V3	2W3	3.3	3.23	3.37	5	95	600	1.0	5	1.0	-3.5	0	5
LT52B3V6	2W4	3.6	3.53	3.67	5	90	600	1.0	5	1.0	-3.5	0	5
LT52B3V9	2W5	3.9	3.82	3.98	5	90	600	1.0	3	1.0	-3.5	0	5
LT52B4V3	2W6	4.3	4.21	4.39	5	90	600	1.0	3	1.0	-3.5	0	5
LT52B4V7	2W7	4.7	4.61	4.79	5	80	500	1.0	3	2.0	-3.5	0.2	5
LT52B5V1	2W8	5.1	5.00	5.20	5	60	480	1.0	2	2.0	-2.7	1.2	5
LT52B5V6	2W9	5.6	5.49	5.71	5	40	400	1.0	1	2.0	-2.0	2.5	5
LT52B6V2	2WA	6.2	6.08	6.32	5	10	150	1.0	3	4.0	0.4	3.7	5
LT52B6V8	2WB	6.8	6.66	6.94	5	15	80	1.0	2	4.0	1.2	4.5	5
LT52B7V5	2WC	7.5	7.35	7.65	5	15	80	1.0	1	5.0	2.5	5.3	5
LT52B8V2	2WD	8.2	8.04	8.36	5	15	80	1.0	0.7	5.0	3.2	6.2	5
LT52B9V1	2WE	9.1	8.92	9.28	5	15	100	1.0	0.5	6.0	3.8	7.0	5
LT52B10	2WF	10	9.80	10.20	5	20	150	1.0	0.2	7.0	4.5	8.0	5
LT52B11	2WG	11	10.78	11.22	5	20	150	1.0	0.1	8.0	5.4	9.0	5
LT52B12	2WH	12	11.76	12.24	5	25	150	1.0	0.1	8.0	6.0	10.0	5
LT52B13	2WI	13	12.74	13.26	5	30	170	1.0	0.1	8.0	7.0	11.0	5
LT52B15	2WJ	15	14.70	15.30	5	30	200	1.0	0.1	10.5	9.2	13.0	5
LT52B16	2WK	16	15.68	16.32	5	40	200	1.0	0.1	11.2	10.4	14.0	5
LT52B18	2WL	18	17.64	18.36	5	45	225	1.0	0.1	12.6	12.4	16.0	5
LT52B20	2WM	20	19.60	20.40	5	55	225	1.0	0.1	14.0	14.4	18.0	5
LT52B22	2WN	22	21.56	22.44	5	55	250	1.0	0.1	15.4	16.4	20.0	5
LT52B24	2WO	24	23.52	24.48	5	70	250	1.0	0.1	16.8	18.4	22.0	5
LT52B27	2WP	27	26.46	27.54	2	80	300	0.5	0.1	18.9	21.4	25.3	2
LT52B30	2WQ	30	29.40	30.60	2	80	300	0.5	0.1	21.0	24.4	29.4	2
LT52B33	2WR	33	32.34	33.66	2	80	325	0.5	0.1	23.1	27.4	33.4	2
LT52B36	2WS	36	35.28	36.72	2	90	350	0.5	0.1	25.2	30.4	37.4	2
LT52B39	2WT	39	38.22	39.78	2	130	350	0.5	0.1	27.3	33.4	41.2	2
LT52B43	2WU	43	42.16	43.84	2	130	350	0.5	0.1	29.4	36.4	45.2	2

Notes: 1. Device mounted on ceramic PCB:7.6mm x 9.4mm x 0.87mm with pad areas 25mm²
 2. Short duration test pulse used to minimize self-heating effect
 3. f = 1kHz

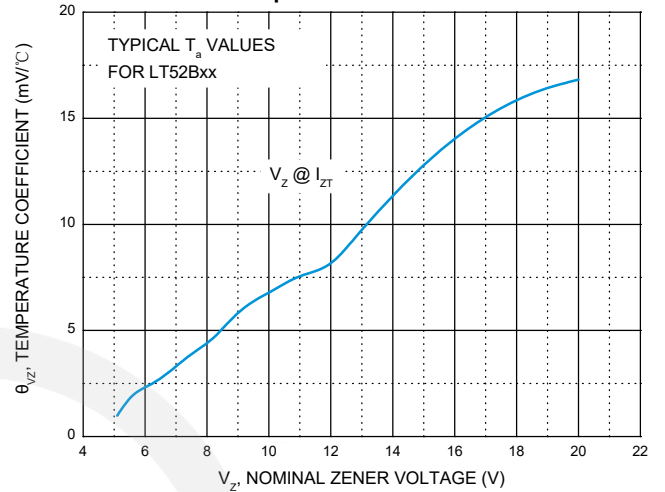
Typical characteristics

Notes: Our company currently provide 5.1 V - 20 V products only

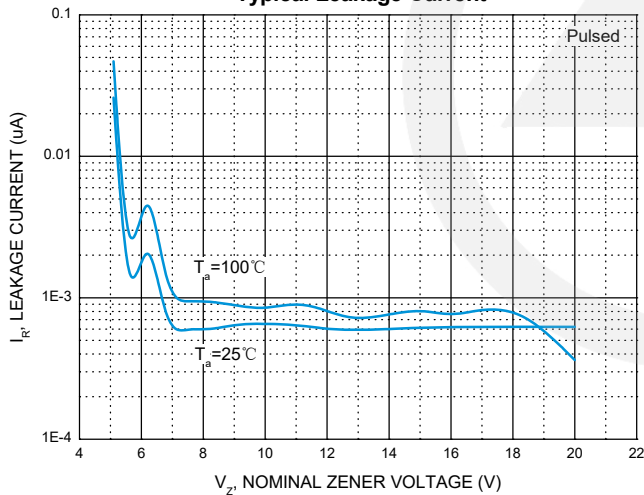
Zener Characteristics (V_z 5.1V to 20 V)



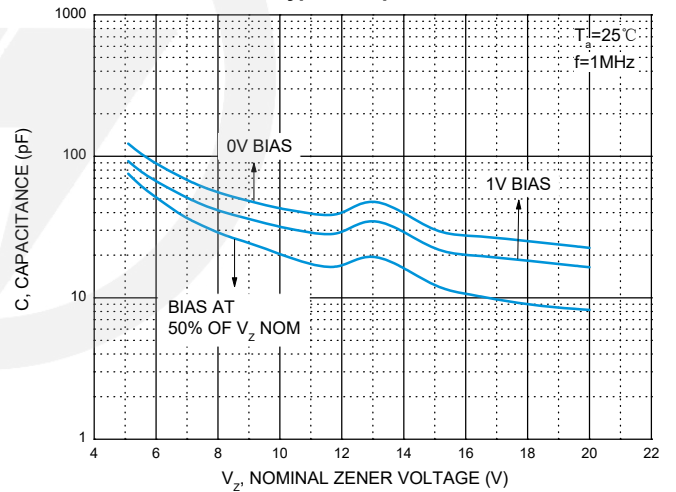
Temperature Coefficients



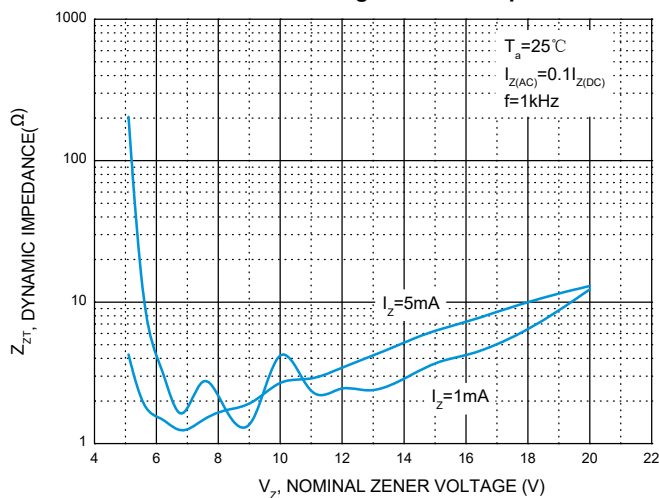
Typical Leakage Current



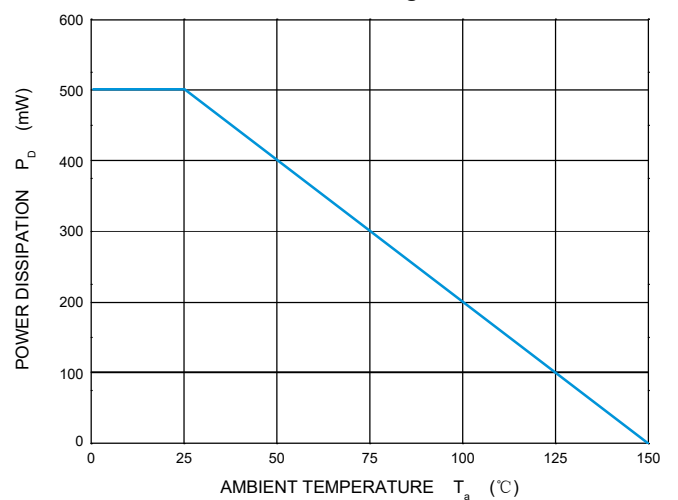
Typical Capacitance



Effect of Zener Voltage on Zener Impedance

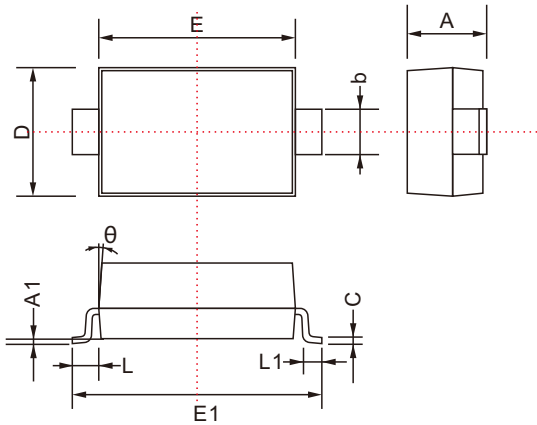


Power Derating Curve



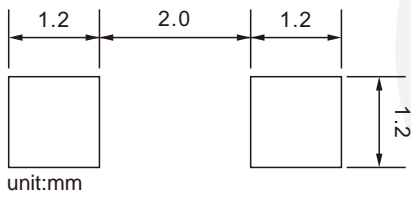
SOD-123 Package Outline

Unit: mm

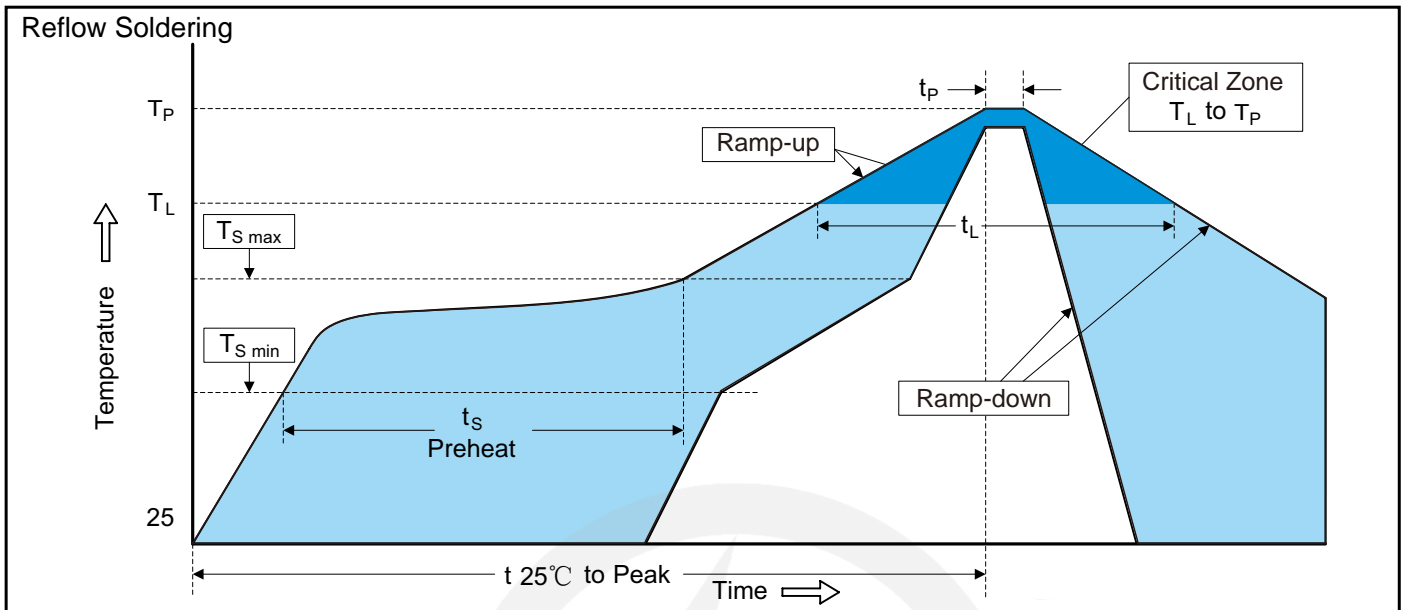


SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.900	1.300
A1	0.000	0.200
b	0.450	0.750
C	0.080	0.230
D	1.500	1.800
E	2.500	2.800
E1	3.550	3.900
L	0.5REF	
θ	8°	

SOD-123 Suggested Pad Layout



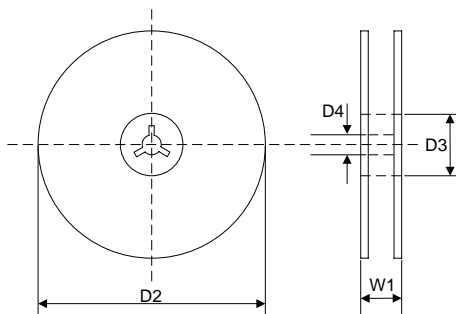
Recommended Soldering Conditions



Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3°C/second max.
Preheat	
-Temperature Min ($T_{S\ min}$)	150°C
-Temperature Max ($T_{S\ max}$)	200°C
-Time (min to max) (t_s)	60-180 seconds
$T_{S\ max}$ to T_L	
-Ramp-up Rate	3°C/second max.
Time maintained above:	
-Temperature (T_L)	217°C
-Time (t_L)	60-150 seconds
Peak Temperature (T_P)	260°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	8 minutes max.

7" Reel



D2 $\Phi 178.0 \pm 2.0$

D3 $\Phi 50.0 \text{ Min.}$

D4 $\Phi 13.0 \pm 0.5$

W1 16.0 ± 2.0

Quantity: 3000PCS