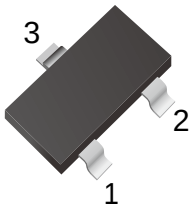
LTZ23Cxx Series

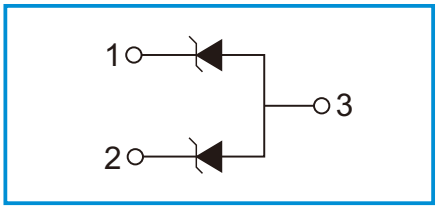
Plastic-Encapsulate Zener Diodes



Features

- Dual zeners in common anode configuration.
- Power Dissipation of 300mW
- Ideally suited for automatic insertion.

Functional Diagram



Mechanical Data

- SOT-23 Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any

Absolute Maximum Ratings And Characteristics (Ta = 25 ℃)

Characteristic	Symbol	Value	Unit
Forward Voltage @ I_F = 10mA	V_F	0.9	V
Power Dissipation	P_D	300	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	417	℃ / W
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{STG}	-55~+150	℃

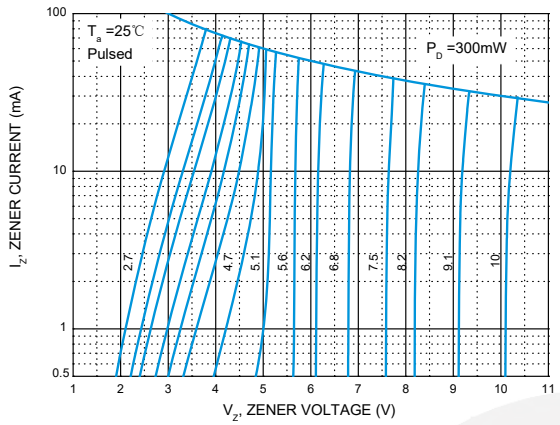
Characteristics at (Ta = 25 °C)

Type Number	Marking Code	Zener Voltage Range (note1)	Maximum Zener Impedance (note 2)		Min Reverse Voltage (note1)
		@ I_{ZT}=5.0mA	Z_{ZT}@I_{ZT}=5.0mA	Z_{Zk}@I_{Zk}=1.0mA	@I_R=0.1μA
		V_Z (V)	Ω	Ω	V_R (V)
LTZ23C2V7	KD1	2.5-2.9	83	500	—
LTZ23C3V0	KD2	2.8-3.2	95	500	—
LTZ23C3V3	KD3	3.1-3.5	95	500	—
LTZ23C3V6	KD4	3.4-3.8	95	500	—
LTZ23C3V9	KD5	3.7-4.1	95	500	—
LTZ23C4V3	KD6	4.0-4.6	95	500	—
LTZ23C4V7	KD7	4.4-5.0	78	500	—
LTZ23C5V1	KD8	4.8-5.4	60	480	0.8
LTZ23C5V6	KD9	5.2-6.0	40	400	1.0
LTZ23C6V2	KDA	5.8-6.6	10	200	2.0
LTZ23C6V8	KDB	6.4-7.2	8.0	150	3.0
LTZ23C7V5	KDC	7.0-7.9	7.0	50	5.0
LTZ23C8V2	KDD	7.7-8.7	7.0	50	6.0
LTZ23C9V1	KDE	8.5-9.6	10	50	7.0
LTZ23C10	KDF	9.4-10.6	15	70	7.5
LTZ23C11	KDG	10.4-11.6	20	70	8.5
LTZ23C12	KDH	11.4-12.7	20	90	9.0
LTZ23C13	KDI	12.4-14.1	25	110	10.0
LTZ23C15	KDJ	13.8-15.6	30	110	11.0
LTZ23C16	KDK	15.3-17.1	40	170	12.0
LTZ23C18	KDL	16.8-19.1	50	170	14.0
LTZ23C20	KDM	18.8-21.2	50	220	15.0
LTZ23C22	KDN	20.8-23.3	55	220	17.0
LTZ23C24	KDO	22.8-25.6	80	220	18.0
LTZ23C27	KDP	25.1-28.9	80	250	20.0
LTZ23C30	KDQ	28-32	80	250	22.5
LTZ23C33	KDR	31-35	80	250	25.0
LTZ23C36	KDS	34-38	90	250	27.0
LTZ23C39	KDT	37-41	90	300	29.0

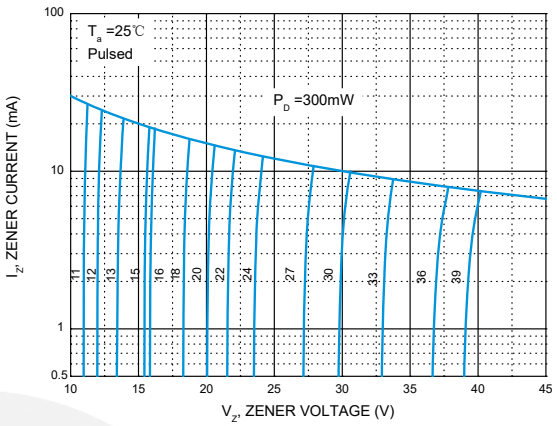
Notes: 1. Short duration test pulse used to minimize self-heating effect.
2. f=1kHz

Characteristics

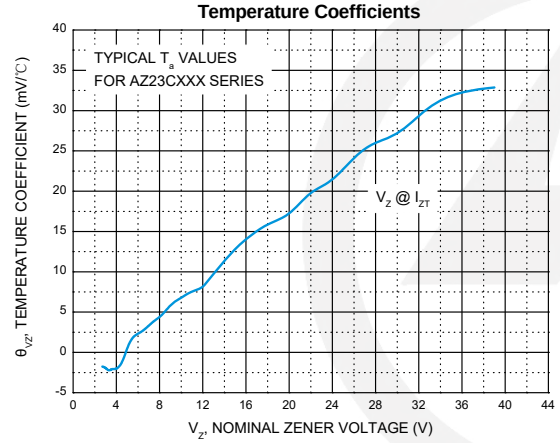
Zener Characteristics (V_Z Up to 10 V)



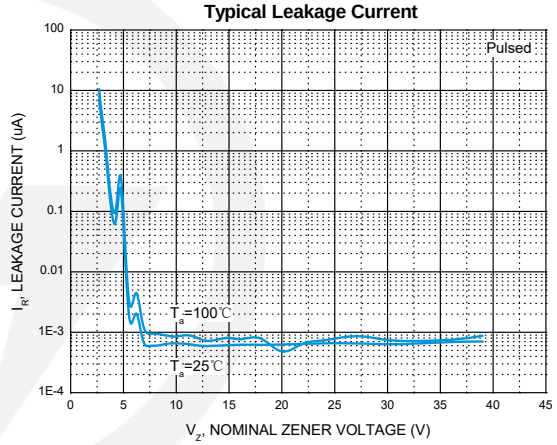
Zener Characteristics (11 V to 39 V)



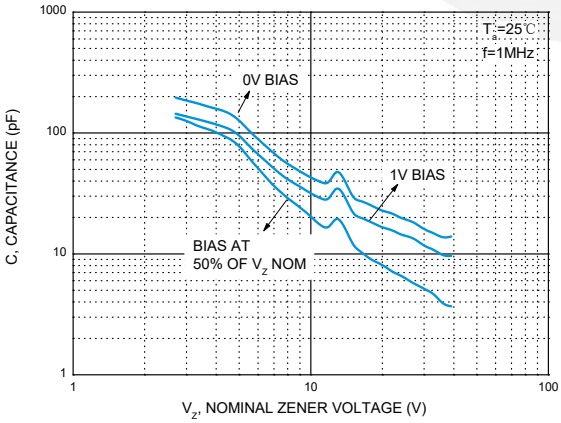
Temperature Coefficients



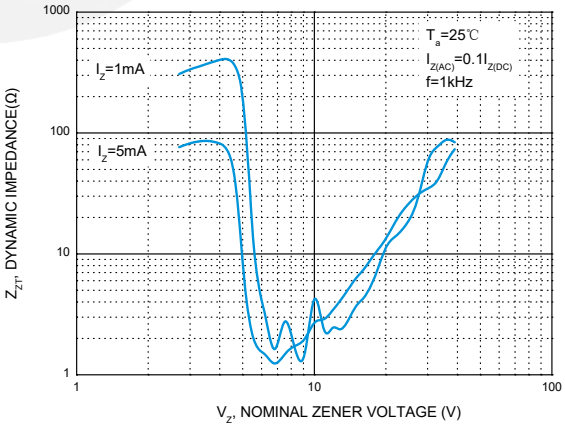
Typical Leakage Current



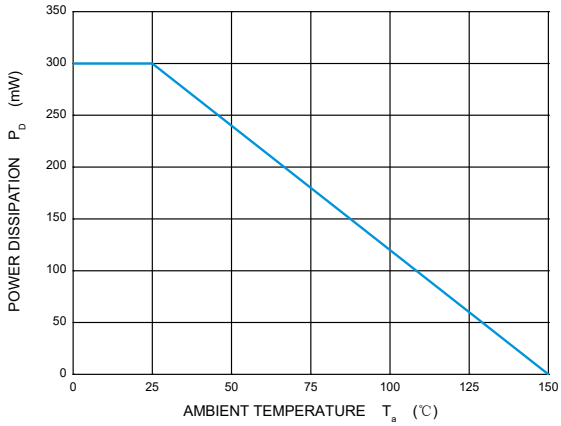
Typical Capacitance



Effect of Zener Voltage on Zener Impedance

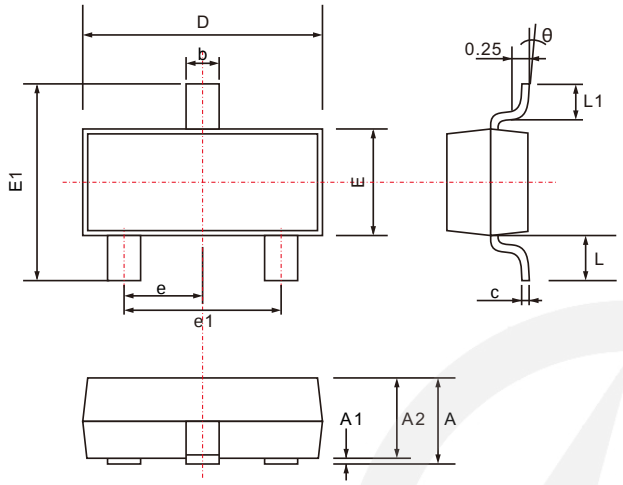


Power Derating Curve



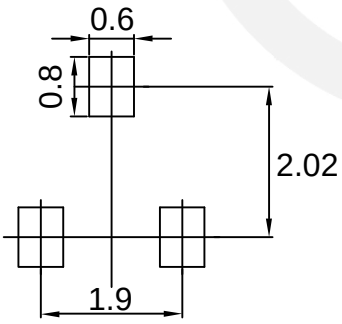
SOT-23 Package Outline

Unit: mm



SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.900	1.200
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.200
D	2.700	3.100
E	1.200	1.400
E1	2.200	3.000
e	0.950 TYP.	
e1	1.750	2.050
L	0.550 TYP.	
L1	0.300	0.500
θ	0°	8°

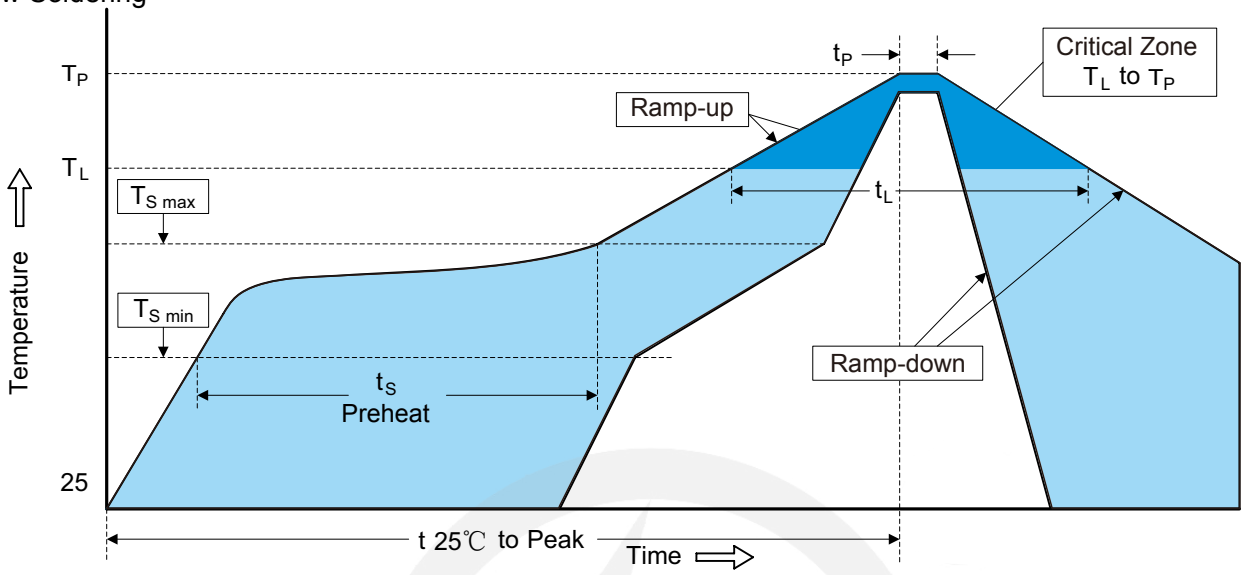
SOT-23 Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm
3.The pad layout is for reference purpose only.

Recommended Soldering Conditions

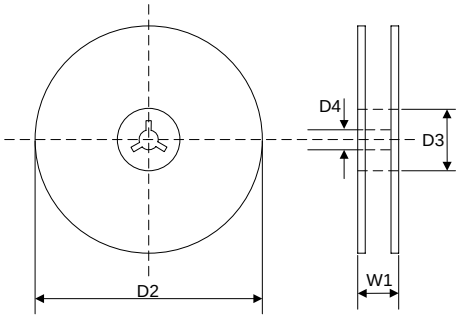
Reflow Soldering



Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3℃/second max.
Preheat -Temperature Min ($T_{S\ min}$) -Temperature Max ($T_{S\ max}$) -Time (min to max) (t_S)	 150℃ 200℃ 60-180 seconds
$T_{S\ max}$ to T_L -Ramp-up Rate	 3℃/second max.
Time maintained above: -Temperature (T_L) -Time (t_L)	 217℃ 60-150 seconds
Peak Temperature (T_P)	260℃
Time within 5℃ of actual Peak Temperature (t_P)	20-40 seconds
Ramp-down Rate	6℃/second max.
Time 25℃ to Peak Temperature	8 minutes max.

7” Reel



D2	Φ178.0±2.0
D3	Φ50.0Min.
D4	Φ13.0±0.5
W1	16.0±2.0
Quantity: 3000PCS	