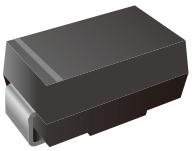
LT2WxxA Series

Surface Mount Zener Diodes

Features



- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- High forward surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C
- Lead free in comply with EU RoHS 2011/65/EU directives

Mechanical Data

- Case:SMA
- Terminals: Tin plated leads, solderable perJ-STD-002 and JESD22-B102
- Polarity: Color band denotes cathode end

Ordering Information

Part Number	Shipping	Reel
LT2WxxA-TR5	5000PCS Tape&Reel	13 inchs
LT2WxxA-TR7K5	7500PCS Tape&Reel	13 inchs

Maximum Ratings (T_a=25℃ Unless otherwise specified)

Parameter	Symbol	Max	Unit
DC power dissipation at TL = 75 °C	P_D	2.0	W
Maximum instantaneous forward voltage@ I_F=200mA	V_F	1.5	V
Maximum junction temperature	T_j	-55 to +150	℃
Storage temperature range	T_{stg}	-55 to +150	℃

Electrical Characteristics (T_a=25℃ Unless otherwise specified)

Part Number	Marking	Nominal Zener voltage			Test current	Maximum dynamic impedance resistance			Maximum reverse leakage current		Maximum DC Zener Current
		Min V_Z (1)at I_{ZT}	Typ. V_Z (1)at I_{ZT}	Max V_Z (1)at I_{ZT}	I_{ZT}	Z_{ZT} at I_{ZT}	Z_{ZK} at I_{ZK}	I_{ZK}	I_R	Test voltage V_R	I_{ZM}
		V	V	V	mA	Ω	Ω	mA	μA	V	mA
LT2W3.0A	2.85	2.85	3.0	3.15	160.0	8.0	400	1.00	100.0	1.0	603.0
LT2W3.3A	2H2	3.14	3.3	3.47	145.0	8.0	400	1.00	100.0	1.0	548.0
LT2W3.6A	2H3	3.42	3.6	3.78	139.0	5.0	400	1.00	100.0	1.0	502.0
LT2W3.9A	2H4	3.71	3.9	4.10	128.0	5.0	400	1.00	50.0	1.0	464.0
LT2W4.3A	2H5	4.09	4.3	4.52	116.0	4.5	400	1.00	50.0	1.0	421.0
LT2W4.7A	2H6	4.47	4.7	4.94	106.0	4.5	550	1.00	10.0	1.0	385.0
LT2W5.1A	2H7	4.85	5.1	5.36	98.0	3.5	600	1.00	10.0	1.0	354.0
LT2W5.6A	2H8	5.32	5.6	5.88	89.5	2.5	500	1.00	10.0	2.0	323.0
LT2W6.2A	2A0	5.89	6.2	6.51	80.5	1.5	700	1.00	10.0	3.0	292.0
LT2W6.8A	2A1	6.46	6.8	7.14	73.5	2.0	700	1.00	10.0	4.0	266.0
LT2W7.5A	2A2	7.13	7.5	7.88	66.5	2.0	700	0.50	10.0	5.0	242.0
LT2W8.2A	2A3	7.79	8.2	8.61	61.0	2.3	700	0.50	10.0	6.0	220.0
LT2W9.1A	2A4	8.65	9.1	9.56	55.0	2.5	700	0.50	10.0	7.0	200.0
LT2W10A	2A5	9.50	10.0	10.50	50.0	3.5	700	0.25	10.0	7.6	182.0
LT2W11A	2A6	10.45	11.0	11.55	45.5	4.0	700	0.25	1.0	8.4	166.0
LT2W12A	2A7	11.40	12.0	12.60	41.5	4.5	700	0.25	1.0	9.1	152.0
LT2W13A	2A8	12.35	13.0	13.65	38.5	5.0	700	0.25	0.5	9.9	138.0
LT2W14A	2A9	13.30	14.0	14.70	35.7	5.5	700	0.25	0.5	10.6	130.0
LT2W15A	2B0	14.25	15.0	15.75	33.4	7.0	700	0.25	0.5	11.4	122.0
LT2W16A	2B1	15.20	16.0	16.80	31.2	8.0	700	0.25	0.5	12.2	114.0
LT2W17A	2B2	16.15	17.0	17.85	29.4	9.0	750	0.25	0.5	13.0	107.0
LT2W18A	2B3	17.10	18.0	18.90	27.8	10.0	750	0.25	0.5	13.7	100.0
LT2W19A	2B4	18.05	19.0	19.95	26.3	11.0	750	0.25	0.5	14.4	95.0
LT2W20A	2B5	19.00	20.0	21.00	25.0	11.0	750	0.25	0.5	15.2	90.0
LT2W22A	2B6	20.90	22.0	23.10	22.8	12.0	750	0.25	0.5	16.7	82.0
LT2W24A	2B7	22.80	24.0	25.20	20.8	13.0	750	0.25	0.5	18.2	76.0
LT2W27A	2B8	25.65	27.0	28.35	18.5	18.0	750	0.25	0.5	20.6	68.0
LT2W30A	2B9	28.50	30.0	31.50	16.6	20.0	1000	0.25	0.5	22.5	60.0
LT2W33A	2C0	31.35	33.0	34.65	15.1	23.0	1000	0.25	0.5	25.1	55.0
LT2W36A	2C1	34.20	36.0	37.80	13.9	25.0	1000	0.25	0.5	27.4	50.0
LT2W39A	2C2	37.05	39.0	40.95	12.8	30.0	1000	0.25	0.5	29.7	47.0
LT2W43A	2C3	40.85	43.0	45.15	11.6	35.0	1500	0.25	0.5	32.7	43.0
LT2W47A	2C4	44.65	47.0	49.35	10.6	40.0	1500	0.25	0.5	35.8	39.0
LT2W51A	2C5	48.45	51.0	53.55	9.8	48.0	1500	0.25	0.5	38.8	36.0
LT2W56A	2C6	53.20	56.0	58.80	9.0	55.0	2000	0.25	0.5	42.6	32.0

Electrical Characteristics (T_a=25℃ Unless otherwise specified)

Part Number	Marking	Nominal Zener voltage			Test current	Maximum dynamic impedance resistance			Maximum reverse leakage current		Maximum DC Zener Current
		Min V_Z (1)at I_{ZT}	Typ. V_Z (1)at I_{ZT}	Max V_Z (1)at I_{ZT}	I_{ZT}	Z_{ZT} at I_{ZT}	Z_{ZK} at I_{ZK}	I_{ZK}	I_R	Test voltage V_R	I_{ZM}
		V	V	V	mA	Ω	Ω	mA	μA	V	mA
LT2W62A	2C7	58.90	62.0	65.10	8.1	60.0	2000	0.25	0.5	47.1	29.0
LT2W68A	2C8	64.60	68.0	71.40	7.4	75.0	2000	0.25	0.5	51.7	27.0
LT2W75A	2C9	71.25	75.0	78.75	6.7	90.0	2000	0.25	0.5	56.0	24.0
LT2W82A	2F0	77.90	82.0	86.10	6.1	100.0	3000	0.25	0.5	62.2	22.0
LT2W91A	2F1	86.45	91.0	95.55	5.5	125.0	3000	0.25	0.5	69.2	20.0
LT2W100A	2F2	95.00	100.0	105.00	5.0	175.0	3000	0.25	0.5	76.0	18.0
LT2W110A	2F3	104.50	110.0	115.50	4.5	250.0	4000	0.25	0.5	83.6	17.0
LT2W120A	2F4	114.00	120.0	126.00	4.2	325.0	4500	0.25	0.5	91.2	15.0
LT2W130A	2F5	123.50	130.0	136.50	3.8	400.0	5000	0.25	0.5	98.8	14.0
LT2W140A	2F6	133.00	140.0	147.00	3.6	500.0	5500	0.25	0.5	106.4	13.0
LT2W150A	2F7	142.50	150.0	157.50	3.3	575.0	6000	0.25	0.5	114.0	12.0
LT2W160A	2F8	152.00	160.0	168.00	3.1	650.0	6500	0.25	0.5	121.6	11.0
LT2W170A	2F9	161.50	170.0	178.50	2.9	675.0	7000	0.25	0.5	130.4	11.0
LT2W180A	2G1	171.00	180.0	189.00	2.8	725.0	7000	0.25	0.5	136.8	10.0
LT2W190A	2G2	180.50	190.0	199.50	2.6	825.0	8000	0.25	0.5	144.8	10.0
LT2W200A	2G3	190.00	200.0	210.00	2.5	1900.0	9990	0.25	0.5	152.0	9.0
LT2W220A	209.00	209.00	220.0	231.00	2.0	2000.0	8500	0.25	0.5	167.0	8.0
LT2W270A	256.50	256.50	270.0	283.50	1.6	2200.0	8500	0.25	0.5	205.0	6.7
LT2W300A	285.00	285.00	300.0	315.00	1.5	2200.0	9000	0.25	0.5	228.0	5.9
LT2W330A	313.50	313.50	330.0	346.50	1.4	2300.0	9000	0.25	0.5	250.0	5.4

Notes:（1）Nominal Zener voltage Range：95% Typ.Vz (1)at Izt----105% Typ.Vz (1)at Izt

Characteristics Curves

Fig.1 Power Temperature Derating Crue

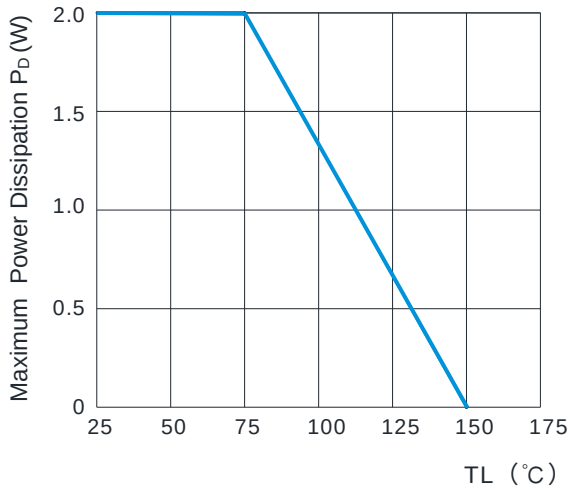


Fig.2 Temperature Coefficients vs Zener Voltage

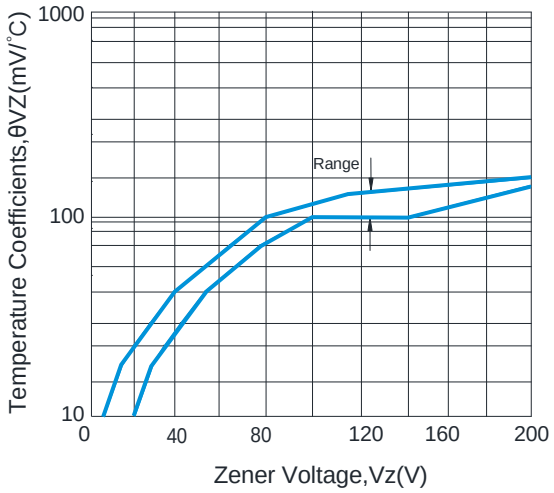


Fig.3 Pulse Waveform

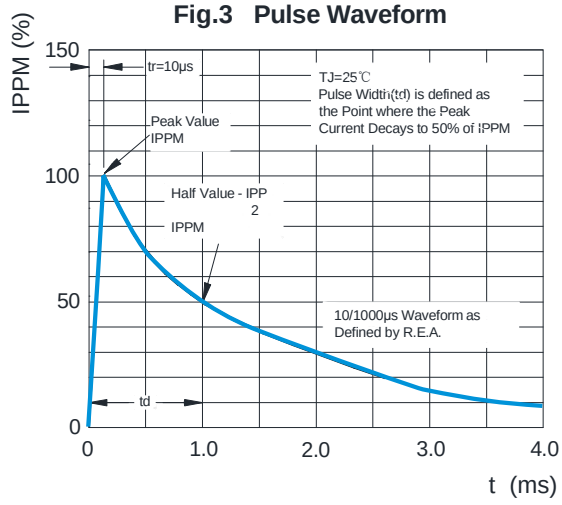


Fig.4 Typical Thermal Resistance vs Lead Length

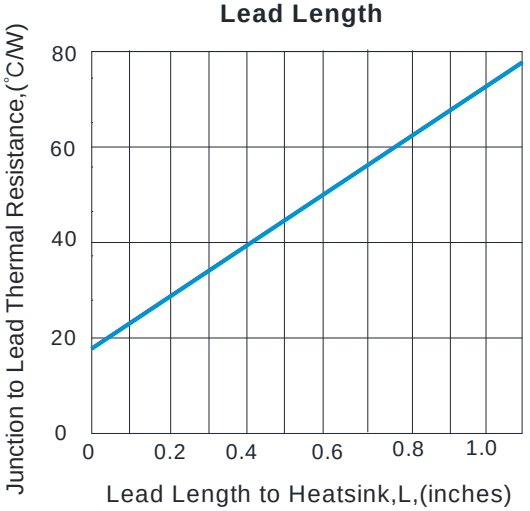


Fig.5 Maximum Surge Power

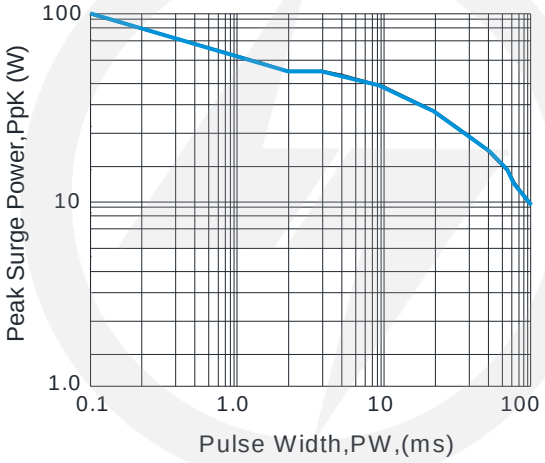
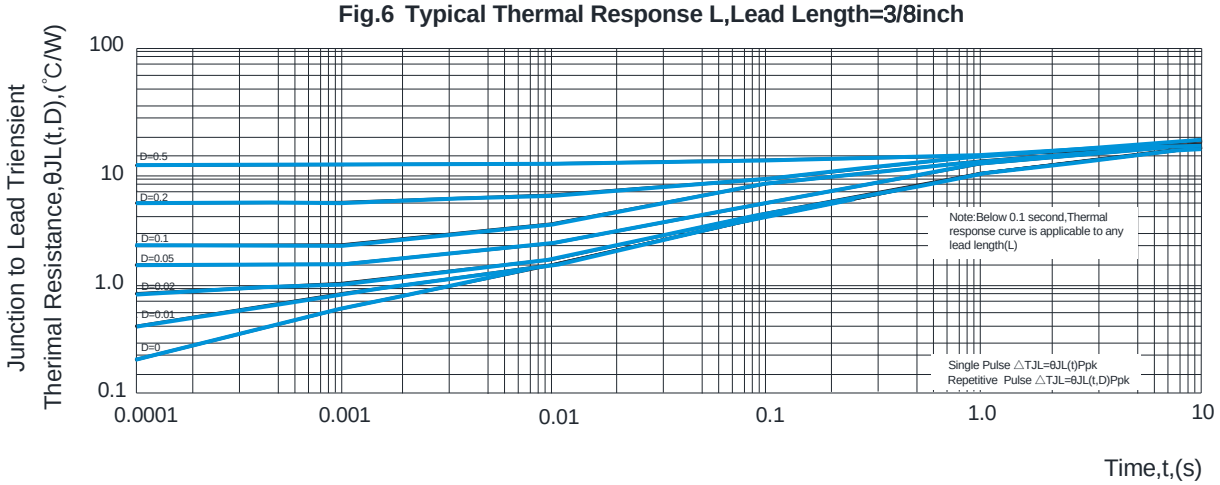
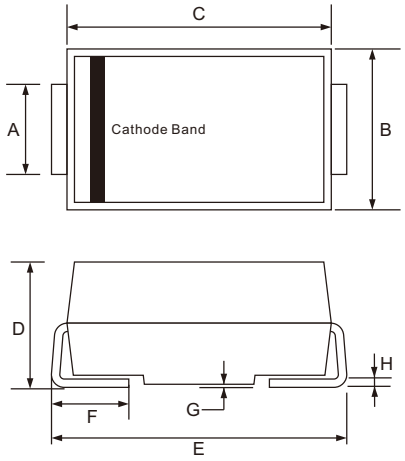


Fig.6 Typical Thermal Response L,Lead Length=3/8inch



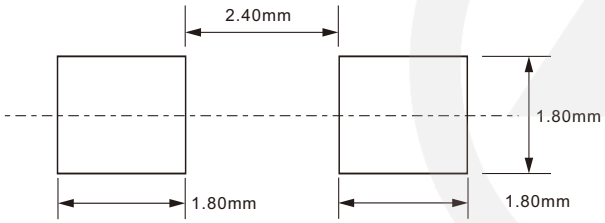
SMA Package Outline



Unit : mm

SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	1.25	1.65
B	2.30	2.79
C	4.00	4.75
D	1.90	2.50
E	4.70	5.28
F	0.76	1.52
G	0.203 TYP.	
H	0.15	0.31

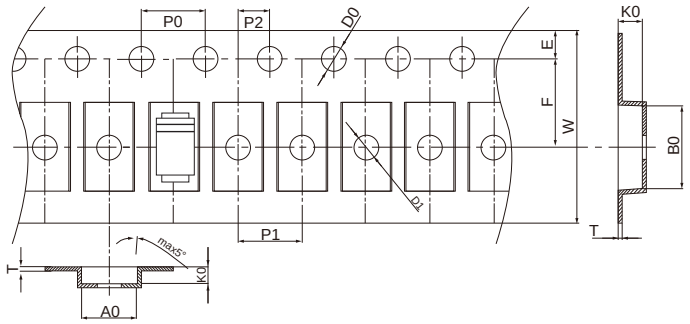
SMA Suggested Pad Layout



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

Carrier Tape Dimensions

Unit：mm

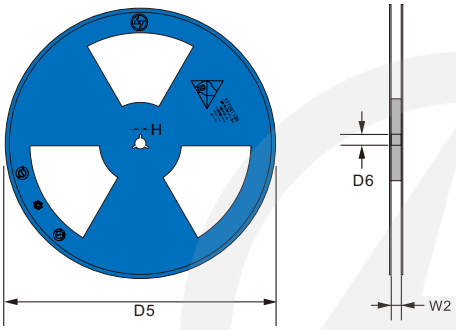


Symbol	Spec	Symbol	Spec
A0	2.70±0.10	D0	1.55±0.05
B0	5.33±0.10	D1	1.55±0.05
K0	2.35±0.10	T	0.20±0.03
P0	4.00±0.10	E	1.75±0.10
P1	4.00±0.10	F	5.50±0.05
P2	2.00±0.10	W	12.0±0.30

Reel Dimensions

Unit：mm

13” Reel

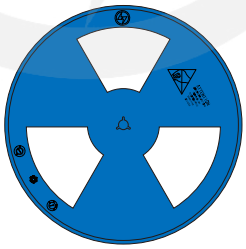


D5	Φ330.0±2.0
D6	Φ13.5±0.5
H	2.5±1.0
W2	12±2.0
Quantity: 5000/7500PCS	

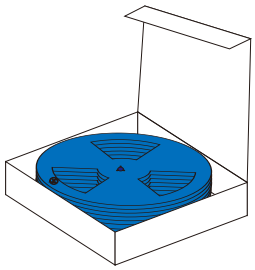
Packaging

SMA

5000PCS/Reel
7500PCS/Reel



5Reel/Inner Box
25KPCS/Inner Box
37.5KPCS/Inner Box



Dim(Unit:mm)
340mm*340mm*85mm

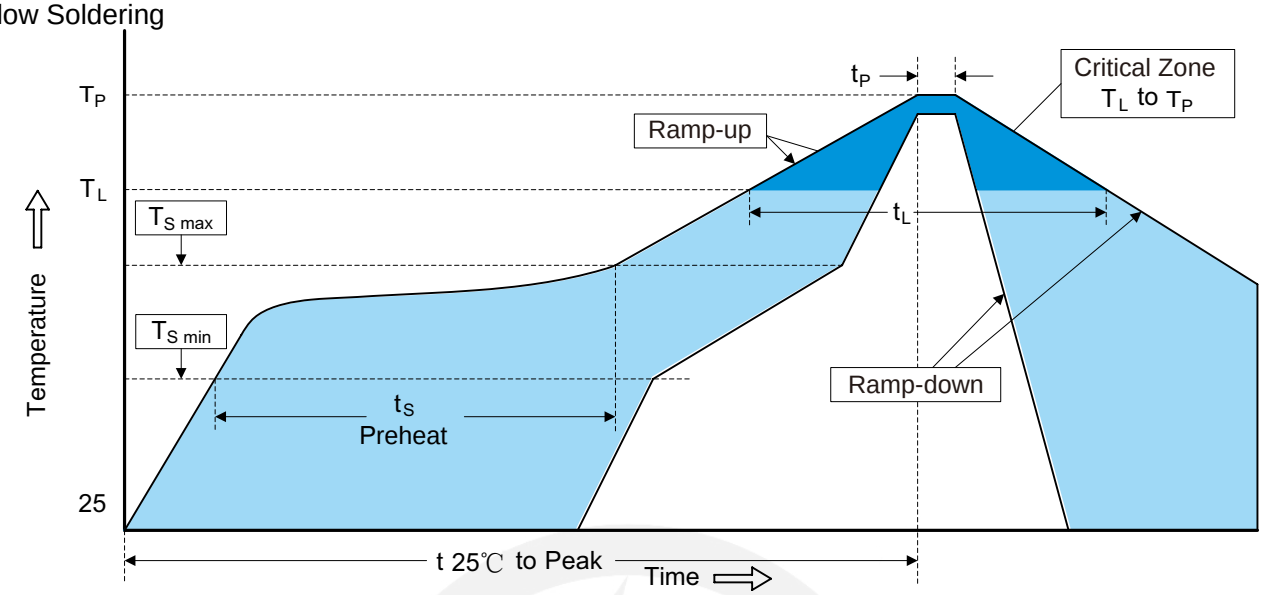
4 Boxs per carton
100KPCS per carton
150KPCS per carton

Dim(Unit:mm)
360mm*360mm*355mm

13 inchs Reel

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.

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Version Update Information

Series NO.	Enactment/Revision Date	Effective Date	Version	Revision content	Revision Reason	Revision Person	Note
01	2025.01.07	2025.01.07	3.0	New File	/	Ding	