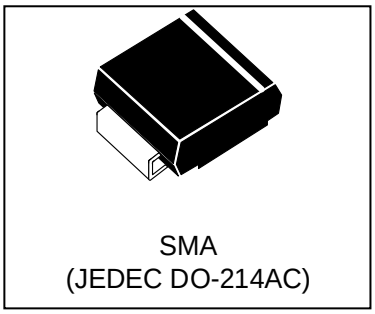
WZSMA2ZxxA

Surface Mount Silicon Zener Diodes

Features



SMA
(JEDEC DO-214AC)

- For surface mounted applications
- For use in stabilizing and clipping with high power rating
- Easy to pick and place
- High peak reverse power dissipation
- Low zener impedance
- Low reverse leakage
- Built-in strain relief
- IEC 61000-4-2 (ESD) ±30kV(air), ±30kV(contact)
- MSL: Level 1

Mechanical Characteristics

- Case: SMA (JEDEC DO-214AC), molded plastic body
- Mounting position: any
- Polarity: Color band denotes cathode end
- RoHS compliant

Absolute Maximum Rating (T_A=25℃ unless otherwise noted)			
Rating	**Symbol**	**Value**	**Units**
DC Power dissipation at T_L=50 °C(1)	P_D	2.0	W
Maximum forward voltage at I_F=200mA	V_F	1.2	V
Junction temperature range	T_J , T_{STG}	-55 to +150	℃
Storage temperature range	T_J , T_{STG}	-55 to +150	℃

Note:

(1) T_L=Lead temperature at 3/8" (9.5mm) from body.

Electrical Characteristics

Part Number	Device Marking Code	Nominal Zener Voltage @I_T			I_{ZT}(mA)	Maximum Zener Impedance			Maximum Reverse Leakage Current		Maximum DC Zener Current
		$V_{Z\ AVE.}$(V)	$V_{Z\ MIN.}$(V)	$V_{Z\ MAX.}$(V)		$Z_{ZT\ MAX.}$(Ω) @I_{ZT}	$Z_{ZK\ MAX.}$(Ω) @I_{ZK}	I_{ZK}(mA)	I_R(uA)@V_R	V_R(V)	I_{ZM} (mA)
WZSMA2Z3.0A	2H1	3.0	2.85	3.15	160	8.0	400	1.00	100	1.0	603.0
WZSMA2Z3.3A	2H2	3.3	3.14	3.47	145.0	8.0	400	1.00	100	1.0	548.0
WZSMA2Z3.6A	2H3	3.6	3.42	3.78	139.0	5.0	400	1.00	100	1.0	502.0
WZSMA2Z3.9A	2H4	3.9	3.71	4.10	128.0	5.0	400	1.00	50	1.0	464.0
WZSMA2Z4.3A	2H5	4.3	4.09	4.52	116.0	4.5	400	1.00	50	1.0	421.0
WZSMA2Z4.7A	2H6	4.7	4.47	4.94	106.0	4.5	550	1.00	10	1.0	385.0
WZSMA2Z5.1A	2H7	5.1	4.85	5.36	98.0	3.5	600	1.00	10	1.0	354.0
WZSMA2Z5.6A	2H8	5.6	5.32	5.88	89.5	2.5	500	1.00	10	2.0	323.0
WZSMA2Z6.2A	2A0	6.2	5.89	6.51	80.5	1.5	700	1.00	10	3.0	292.0
WZSMA2Z6.8A	2A1	6.8	6.46	7.14	73.5	2.0	700	1.00	10	4.0	266.0
WZSMA2Z7.5A	2A2	7.5	7.13	7.88	66.5	2.0	700	0.50	10	5.0	242.0
WZSMA2Z8.2A	2A3	8.2	7.79	8.61	61.0	2.3	700	0.50	10	6.0	220.0
WZSMA2Z9.1A	2A4	9.1	8.65	9.56	55.0	2.5	700	0.50	10	7.0	200.0
WZSMA2Z10A	2A5	10.0	9.50	10.50	50.0	3.5	700	0.25	10	7.6	182.0
WZSMA2Z11A	2A6	11.0	10.45	11.55	45.5	4.0	700	0.25	1.0	8.4	166.0
WZSMA2Z12A	2A7	12.0	11.40	12.60	41.5	4.5	700	0.25	1.0	9.1	152.0
WZSMA2Z13A	2A8	13.0	12.35	13.65	38.5	5.0	700	0.25	0.5	9.9	138.0
WZSMA2Z14A	2A9	14.0	13.30	14.70	35.7	5.5	700	0.25	0.5	10.6	130.0
WZSMA2Z15A	2B0	15.0	14.25	15.75	33.4	7.0	700	0.25	0.5	11.4	122.0
WZSMA2Z16A	2B1	16.0	15.20	16.80	31.2	8.0	700	0.25	0.5	12.2	114.0
WZSMA2Z17A	2B2	17.0	16.15	17.85	29.4	9.0	750	0.25	0.5	13.0	107.0
WZSMA2Z18A	2B3	18.0	17.10	18.90	27.8	10.0	750	0.25	0.5	13.7	100.0
WZSMA2Z19A	2B4	19.0	18.05	19.95	26.3	11.0	750	0.25	0.5	14.4	95.0
WZSMA2Z20A	2B5	20.0	19.00	21.00	25.0	11.0	750	0.25	0.5	15.2	90.0
WZSMA2Z22A	2B6	22.0	20.90	23.10	22.8	12.0	750	0.25	0.5	16.7	82.0
WZSMA2Z24A	2B7	24.0	22.80	25.20	20.8	13.0	750	0.25	0.5	18.2	76.0
WZSMA2Z27A	2B8	27.0	25.65	28.35	18.5	18.0	750	0.25	0.5	20.6	68.0
WZSMA2Z30A	2B9	30.0	28.50	31.50	16.6	20.0	1000	0.25	0.5	22.5	60.0
WZSMA2Z33A	2C0	33.0	31.35	34.65	15.1	23.0	1000	0.25	0.5	25.1	55.0
WZSMA2Z36A	2C1	36.0	34.20	37.80	13.9	25.0	1000	0.25	0.5	27.4	50.0
WZSMA2Z39A	2C2	39.0	37.05	40.95	12.8	30.0	1000	0.25	0.5	29.7	47.0
WZSMA2Z43A	2C3	43.0	40.85	45.15	11.6	35.0	1500	0.25	0.5	32.7	43.0
WZSMA2Z47A	2C4	47.0	44.65	49.35	10.6	40.0	1500	0.25	0.5	35.8	39.0
WZSMA2Z51A	2C5	51.0	48.45	53.55	9.8	48.0	1500	0.25	0.5	38.8	36.0
WZSMA2Z56A	2C6	56.0	53.20	58.80	9.0	55.0	2000	0.25	0.5	42.6	32.0
WZSMA2Z62A	2C7	62.0	58.90	65.10	8.1	60.0	2000	0.25	0.5	47.1	29.0
WZSMA2Z68A	2C8	68.0	64.60	71.40	7.4	75.0	2000	0.25	0.5	51.7	27.0
WZSMA2Z75A	2C9	75.0	71.25	78.75	6.7	90.0	2000	0.25	0.5	56.0	24.0
WZSMA2Z82A	2F0	82.0	77.90	86.10	6.1	100.0	3000	0.25	0.5	62.2	22.0
WZSMA2Z91A	2F1	91.0	86.45	95.55	5.5	125.0	3000	0.25	0.5	69.2	20.0
WZSMA2Z100A	2F2	100.0	95.00	105.00	5.0	175.0	3000	0.25	0.5	76.0	18.0
WZSMA2Z110A	2F3	110.0	104.50	115.50	4.5	250.0	4000	0.25	0.5	83.6	17.0
WZSMA2Z120A	2F4	120.0	114.00	126.00	4.2	325.0	4500	0.25	0.5	91.2	15.0
WZSMA2Z130A	2F5	130.0	123.50	136.50	3.8	400.0	5000	0.25	0.5	98.8	14.0
WZSMA2Z140A	2F6	140.0	133.00	147.00	3.6	500.0	5500	0.25	0.5	106.4	13.0
WZSMA2Z150A	2F7	150.0	142.50	157.50	3.3	575.0	6000	0.25	0.5	114.0	12.0

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WZSMA2Z160A	2F8	160.0	152.00	168.00	3.1	650.0	6500	0.25	0.5	121.6	11.0
WZSMA2Z170A	2F9	170.0	161.50	178.50	2.9	675.0	7000	0.25	0.5	130.4	11.0
WZSMA2Z180A	2G1	180.0	171.00	189.00	2.8	725.0	7000	0.25	0.5	136.8	10.0
WZSMA2Z190A	2G2	190.0	180.50	199.50	2.6	825.0	8000	0.25	0.5	144.8	10.0
WZSMA2Z200A	2G3	200.0	190.00	210.00	2.5	1900.0	9990	0.25	0.5	152.0	9.0
WZSMA2Z220A	2G4	220.0	209.00	231.00	2.0	2000.0	8500	0.25	0.5	167.0	8.0
WZSMA2Z270A	2G5	270.0	256.50	283.50	1.6	2200.0	8500	0.25	0.5	205.0	6.7
WZSMA2Z300A	2G6	300.0	285.00	315.00	1.5	2200.0	9000	0.25	0.5	228.0	5.9
WZSMA2Z330A	2G7	330.0	313.50	346.50	1.4	2300.0	9000	0.25	0.5	250.0	5.4

Electrical Characteristics Curves (T_A=25℃ unless otherwise noted)

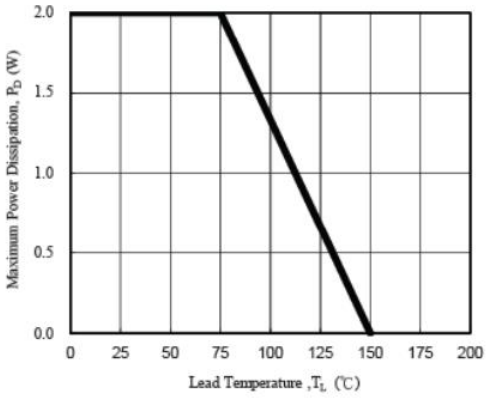


Fig. 1 - Power Temperature Derating Curve

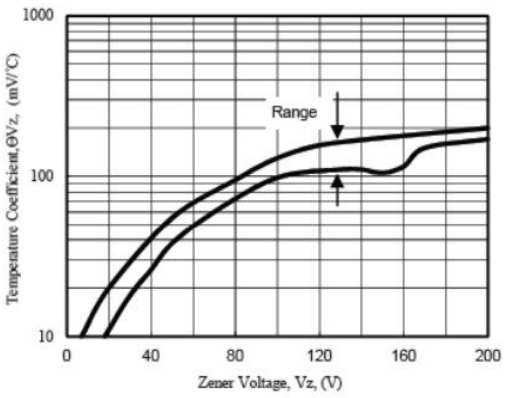


Fig. 2 - Temperature Coefficients v.s. Zener Voltage

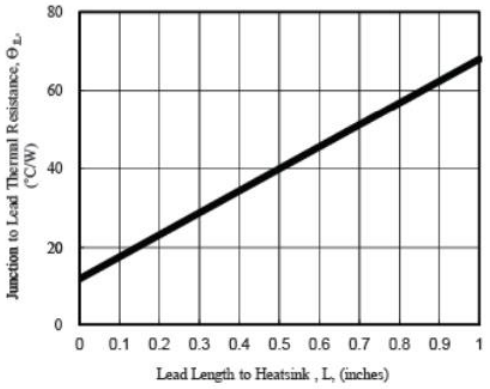


Fig. 3 - Typical Thermal Resistance v.s. Lead Length

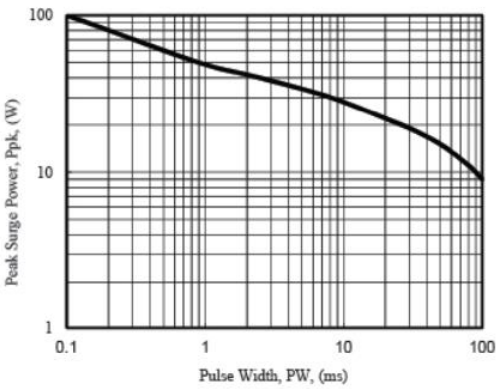


Fig. 4 - Maximum Surge Power

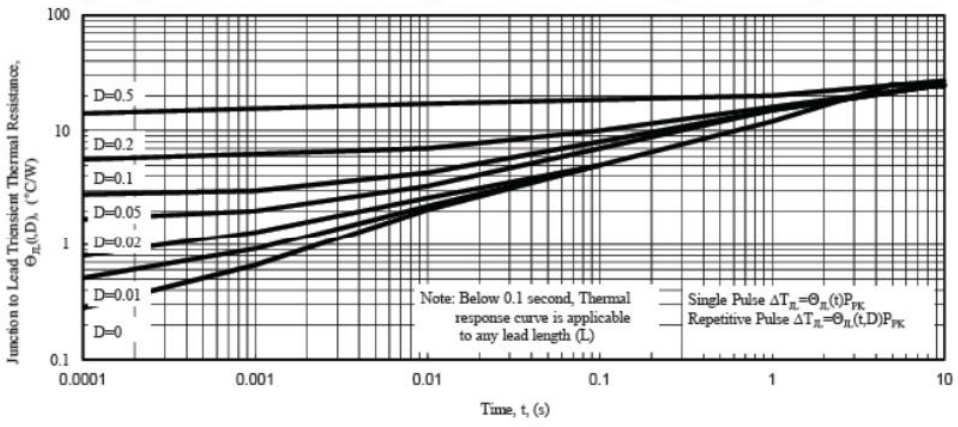
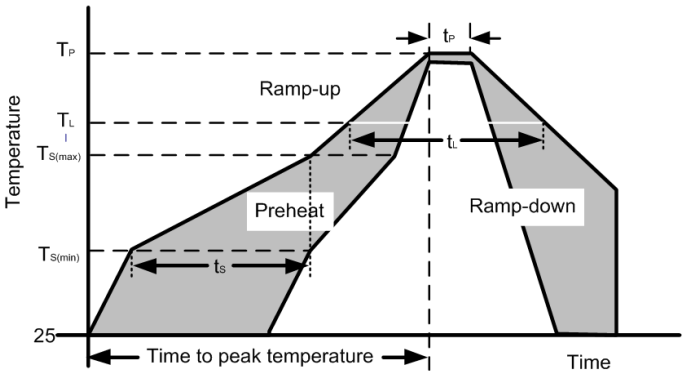


Fig. 5 - Typical Thermal Response L, Lead Length=3/8inch

Note: The above typical parameters or typical characteristics are only indicative and do not make specific guarantees. If detailed values are required, additional communication and provision are required.

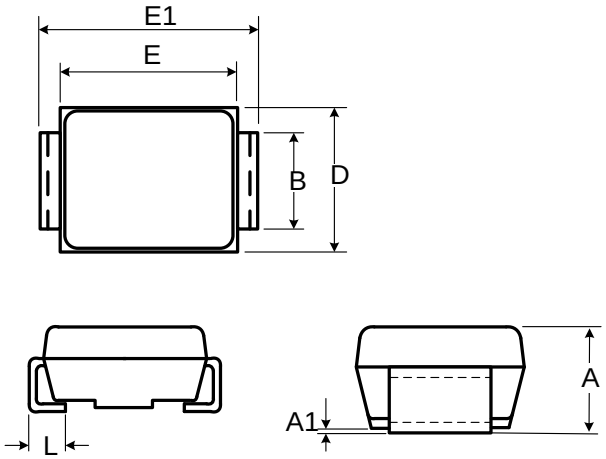
Soldering Parameters

Reflow Condition		
Pre Heat	Temperature Min ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60-190 s
Average ramp up rate (Liquidus Temp) (T_L) to peak		3°C/s max
Ts(max) to TL - Ramp-up Rate		3°C/s max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Temperature (t_L)	60-150 s
Peak Temperature (T_P)		$260^{+0/-5}$ °C
Time within actual peak Temperature (t_p)		20-40 s
Ramp-down Rate		5°C/s max
Time 25°C to peak Temperature (T_P)		8 minutes Max.
Do not exceed		260°C



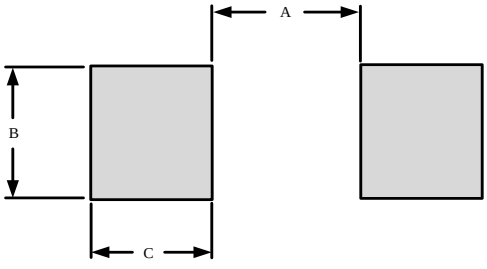
Product Dimensions

Ref.（mm）	Millimeters	
	Min.	Max.
A	1.90	2.45
A1	-	0.30
B	1.25	1.80
E	3.90	4.75
E1	4.70	5.30
D	2.30	2.83
L	0.76	1.52



Recommended Solder Pad Layout

DIM(mm)	MILLIMETERS
A	**2.3**
B	**1.8**
C	**2.1**

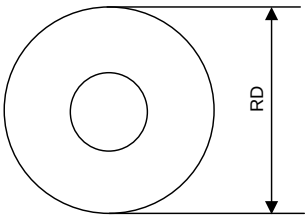


Package Information

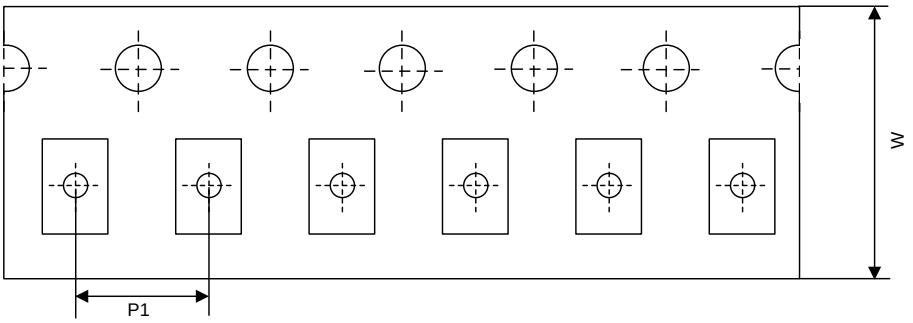
Package Type	Description	Quantity（pcs）
SMA(DO-214AC)	Tape & Reel Pack	5000

Tape and Reel Information

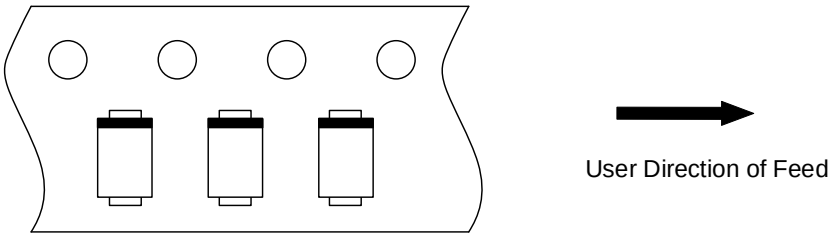
Reel Dimensions



Tape Dimensions



Quadrant Assignments for PIN1 Orientation in tape



Top View

RD	Reel Dimensions	13inch
W	Overall width of the carrier tape	12mm
P1	Pitch between successive cavity centers	4mm

Contact Information

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WAYON website: **http://www.way-on.com**
For additional information, please contact your local Sales Representative.

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Product Specification Statement

The product specification aims to provide users with a reference regarding various product parameters, performance, and usage. It presents certain aspects of the product's performance in graphical form and is intended solely for users to select product and make product comparisons, enabling users to better understand and evaluate the characteristics and advantages of the product. It does not constitute any commitment, warranty, or guarantee.

The product parameters described in the product specification are numerical values, characteristics, and functions obtained through actual testing or theoretical calculations of the product in an independent or ideal state. Due to the complexity of product applications and variations in test conditions and equipment, there may be slight fluctuations in parameter test values. WAYON shall not guarantee that the actual performance of the product when installed in the customer's system or equipment will be entirely consistent with the product specification, especially concerning dynamic parameters. It is recommended that users consult with professionals for product selection and system design. Users should also thoroughly validate and assess whether the actual parameters and performance when installed in their respective systems or equipment meet their requirements or expectations. Additionally, users should exercise caution in verifying product compatibility issues, and WAYON assumes no responsibility for the application of the product.

WAYON strives to provide accurate and up-to-date information to the best of our ability. However, due to technical, human, or other reasons, WAYON cannot guarantee that the information provided in the product specification is entirely accurate and error-free. WAYON shall not be held responsible for any losses or damages resulting from the use or reliance on any information in these product specifications. WAYON reserves the right to revise or update the product specification and the products at any time without prior notice, and the user's continued use of the product specification is considered an acceptance of these revisions and updates. Prior to purchasing and using the product, users should verify the above information with WAYON to ensure that the product specification is the most current, effective, and complete. If users are particularly concerned about product parameters, please consult WAYON in detail or request relevant product test reports. Any data not explicitly mentioned in the product specification shall be subject to separate agreement.

Users are advised to pay attention to the parameter limit values specified in the product specification and maintain a certain margin in design or application to ensure that the product does not exceed the parameter limit values defined in the product specification. This precaution should be taken to avoid exceeding one or more of the limit values, which may result in permanent irreversible damage to the product, ultimately affecting the quality and reliability of the system or equipment.

The design of the product is intended to meet civilian needs and is not guaranteed for use in harsh environments or precision equipment. It is not recommended for use in systems or equipment such as medical devices, aircraft, nuclear power, and similar systems, where failures in these systems or equipment could reasonably be expected to result in personal injury. WAYON shall assume no responsibility for any consequences resulting from such usage.

Users should also comply with relevant laws, regulations, policies, and standards when using the product specification. Users are responsible for the risks and liabilities arising from the use of the product specification and must ensure that it is not used for illegal purposes. Additionally, users should respect the intellectual property rights related to the product specification and refrain from infringing upon any third-party legal rights. WAYON shall assume no responsibility for any disputes or controversies arising from the above-mentioned issues in any form.