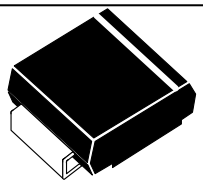
WZSMA59xxA

Surface Mount Silicon Zener Diodes

Features

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



SMA
(JEDEC DO-214AC)

Mechanical Characteristics

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

Maximum Ratings (T_A=25℃ unless otherwise noted)

Parameter	Symbols	Value	Unit
DC Power dissipation at T_L = 75 °C(1)	P_D	1.5	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)
WZSMA5913A	913A	3.3	3.14	3.47	113.6	10	500.0	1.00	100.0	1.0	455
WZSMA5914A	914A	3.6	3.42	3.78	104.2	9.0	500.0	1.00	100.0	1.0	417
WZSMA5915A	915A	3.9	3.71	4.10	96.1	7.5	500.0	1.00	50.0	1.0	385
WZSMA5916A	916A	4.3	4.09	4.52	87.2	6.0	500.0	1.00	10.0	1.0	349
WZSMA5917A	917A	4.7	4.47	4.94	79.8	5.0	500.0	1.00	10.0	1.5	319
WZSMA5918A	918A	5.1	4.85	5.36	73.5	4.0	350.0	1.00	10.0	2.0	294
WZSMA5919A	919A	5.6	5.32	5.88	66.9	2.0	250.0	1.00	10.0	3.0	268
WZSMA5920A	920A	6.2	5.89	6.51	60.5	2.0	200.0	1.00	10.0	4.0	242
WZSMA5921A	921A	6.8	6.46	7.14	55.1	2.5	200.0	1.00	10.0	5.2	221
WZSMA5922A	922A	7.5	7.13	7.88	50.0	3.0	400.0	0.50	10.0	6.0	200
WZSMA5923A	923A	8.2	7.79	8.61	45.7	3.5	400.0	0.50	10.0	6.5	183
WZSMA5924A	924A	9.1	8.65	9.56	41.2	4.0	500.0	0.50	10.0	7.0	165
WZSMA5925A	925A	10.0	9.50	10.50	37.5	4.5	500.0	0.25	10.0	8.0	150
WZSMA5926A	926A	11.0	10.45	11.55	34.1	5.5	550.0	0.25	0.5	8.4	136
WZSMA5927A	927A	12.0	11.40	12.60	31.2	6.5	550.0	0.25	0.5	9.1	125
WZSMA5928A	928A	13.0	12.35	13.65	28.8	7.0	550.0	0.25	0.5	9.9	115
WZSMA5929A	929A	15.0	14.25	15.75	25.0	9.0	600.0	0.25	0.5	11.4	100
WZSMA5930A	930A	16.0	15.20	16.80	23.4	10.0	600.0	0.25	0.5	12.2	94
WZSMA5931A	931A	18.0	17.10	18.90	20.8	12.0	650.0	0.25	0.5	13.7	83
WZSMA5932A	932A	20.0	19.00	21.00	18.7	14.0	650.0	0.25	0.5	15.2	75
WZSMA5933A	933A	22.0	20.90	23.10	17.0	17.5	650.0	0.25	0.5	16.7	68
WZSMA5934A	934A	24.0	22.80	25.20	15.6	19.0	700.0	0.25	0.5	18.2	63
WZSMA5935A	935A	27.0	25.65	28.35	13.9	23.0	700.0	0.25	0.5	20.6	56
WZSMA5936A	936A	30.0	28.50	31.50	12.5	26.0	750.0	0.25	0.5	22.8	50
WZSMA5937A	937A	33.0	31.35	34.65	11.4	33.0	800.0	0.25	0.5	25.1	45
WZSMA5938A	938A	36.0	34.20	37.80	10.4	38.0	850.0	0.25	0.5	27.4	42
WZSMA5939A	939A	39.0	37.05	40.95	9.6	45.0	900.0	0.25	0.5	29.7	38
WZSMA5940A	940A	43.0	40.85	45.15	8.7	53.0	950.0	0.25	0.5	32.7	35
WZSMA5941A	941A	47.0	44.65	49.35	8.0	67.0	1000.0	0.25	0.5	35.8	32
WZSMA5942A	942A	51.0	48.45	53.55	7.3	70.0	1100.0	0.25	0.5	38.8	29
WZSMA5943A	943A	56.0	53.20	58.80	6.7	86.0	1300.0	0.25	0.5	42.6	27
WZSMA5944A	944A	62.0	58.90	65.10	6.0	100.0	1500.0	0.25	0.5	47.1	24
WZSMA5945A	945A	68.0	64.60	71.40	5.5	120.0	1700.0	0.25	0.5	51.7	22
WZSMA5946A	946A	75.0	71.25	78.75	5.0	140.0	2000.0	0.25	0.5	56.0	20
WZSMA5947A	947A	82.0	77.90	86.10	4.6	160.0	2500.0	0.25	0.5	62.2	18
WZSMA5948A	948A	91.0	86.45	95.55	4.1	200.0	3000.0	0.25	0.5	69.2	16
WZSMA5949A	949A	100.0	95.00	105.00	3.7	250.0	3100.0	0.25	0.5	76.0	15
WZSMA5950A	950A	110.0	104.50	115.50	3.4	300.0	4000.0	0.25	0.5	83.6	14
WZSMA5951A	951A	120.0	114.00	126.00	3.1	380.0	4500.0	0.25	0.5	91.2	13
WZSMA5952A	952A	130.0	123.50	136.50	2.9	450.0	5000.0	0.25	0.5	98.8	12
WZSMA5953A	953A	150.0	142.50	157.50	2.5	600.0	6000.0	0.25	0.5	114.0	10
WZSMA5954A	954A	160.0	152.00	168.00	2.3	700.0	6500.0	0.25	0.5	121.6	9.4
WZSMA5955A	955A	180.0	171.00	189.00	2.1	900.0	7000.0	0.25	0.5	136.8	8.3
WZSMA5956A	956A	200.0	190.00	210.00	1.9	1200.0	8000.0	0.25	0.5	152.0	7.5

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

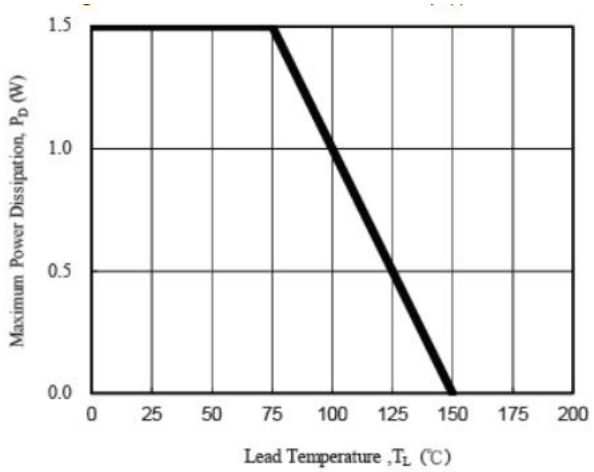


Fig. 1 - Power Temperature Derating Curve

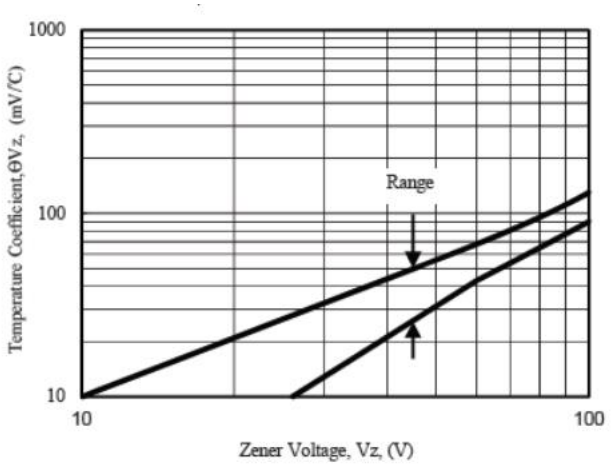


Fig. 2 - Temperature Coefficients v.s. Zener Voltage

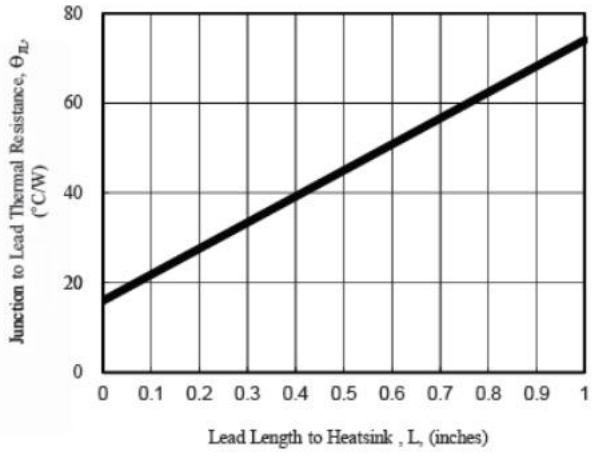


Fig. 3 - Typical Thermal Resistance v.s. Lead Length

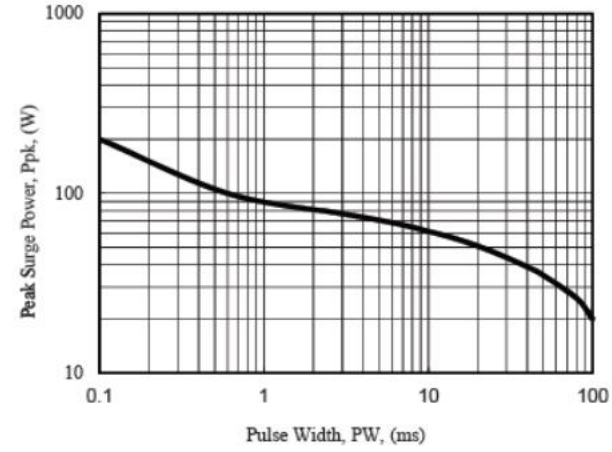


Fig. 4 - Maximum Surge Power

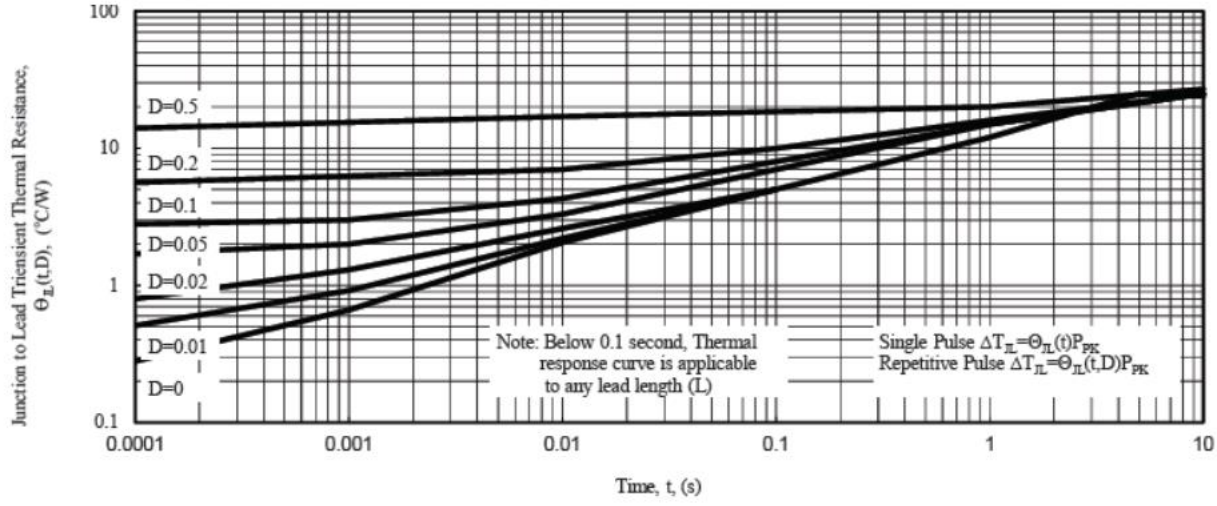
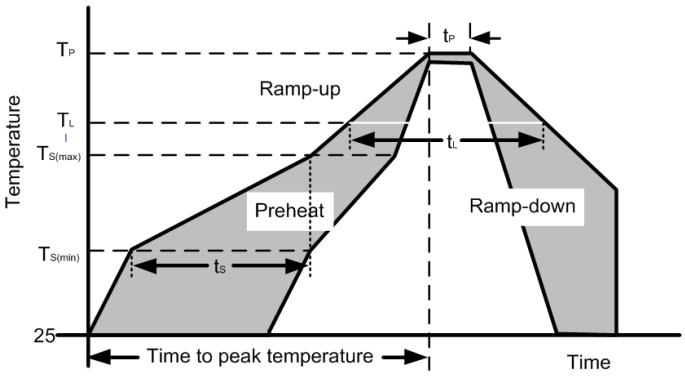


Fig. 5 - Typical Thermal Response L, Lead Length=3/8inch

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.

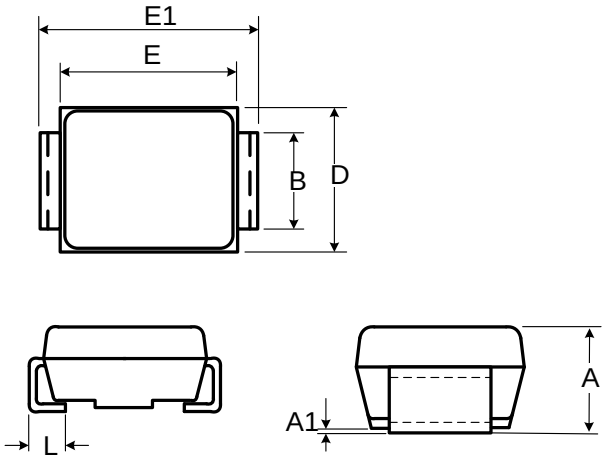
Soldering Parameters

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



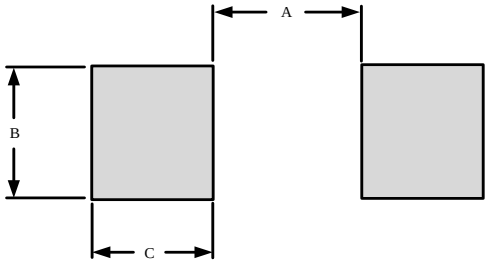
Product Dimensions

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**

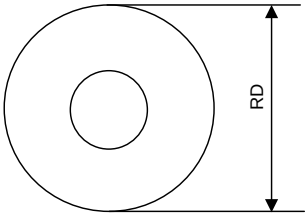


Package Information

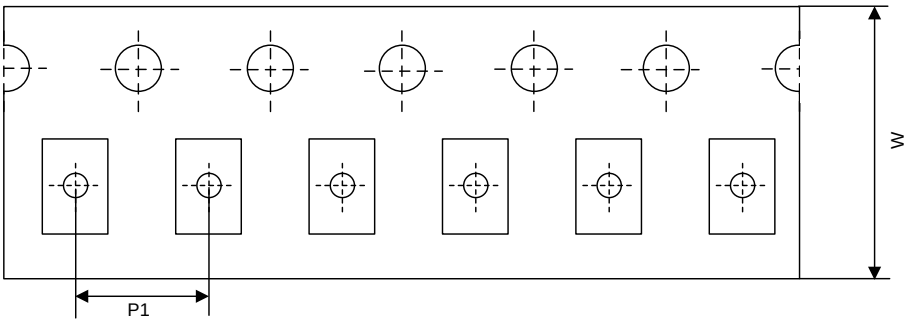
Package Type	Description	Quantity（pcs）
SMA(DO-214AC)	Tape & Reel Pack	5000

Tape and Reel Information

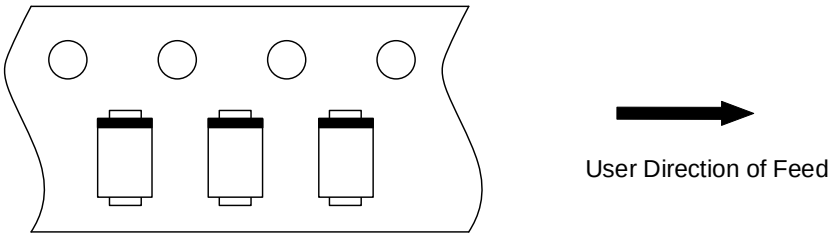
Reel Dimensions



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.

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