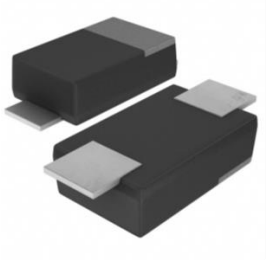
WZSMF59xxA

Surface Mount Silicon Zener Diodes

Features

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



SOD-123FL

Mechanical Characteristics

- Case: SOD-123FL, molded plastic body
- Mounting position: any
- Polarity: Color band denotes cathode end
- RoHS & HF Compliant

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)
WZSMF5913A	13A	3.3	3.14	3.47	113.6	10	500.0	1.00	100.0	1.0	455
WZSMF5914A	14A	3.6	3.42	3.78	104.2	9.0	500.0	1.00	100.0	1.0	417
WZSMF5915A	15A	3.9	3.71	4.10	96.1	7.5	500.0	1.00	50.0	1.0	385
WZSMF5916A	16A	4.3	4.09	4.52	87.2	6.0	500.0	1.00	10.0	1.0	349
WZSMF5917A	17A	4.7	4.47	4.94	79.8	5.0	500.0	1.00	10.0	1.5	319
WZSMF5918A	18A	5.1	4.85	5.36	73.5	4.0	350.0	1.00	10.0	2.0	294
WZSMF5919A	19A	5.6	5.32	5.88	66.9	2.0	250.0	1.00	10.0	3.0	268
WZSMF5920A	20A	6.2	5.89	6.51	60.5	2.0	200.0	1.00	10.0	4.0	242
WZSMF5921A	21A	6.8	6.46	7.14	55.1	2.5	200.0	1.00	10.0	5.2	221
WZSMF5922A	22A	7.5	7.13	7.88	50.0	3.0	400.0	0.50	10.0	6.0	200
WZSMF5923A	23A	8.2	7.79	8.61	45.7	3.5	400.0	0.50	10.0	6.5	183
WZSMF5924A	24A	9.1	8.65	9.56	41.2	4.0	500.0	0.50	10.0	7.0	165
WZSMF5925A	25A	10.0	9.50	10.50	37.5	4.5	500.0	0.25	10.0	8.0	150
WZSMF5926A	26A	11.0	10.45	11.55	34.1	5.5	550.0	0.25	0.5	8.4	136
WZSMF5927A	27A	12.0	11.40	12.60	31.2	6.5	550.0	0.25	0.5	9.1	125
WZSMF5928A	28A	13.0	12.35	13.65	28.8	7.0	550.0	0.25	0.5	9.9	115
WZSMF5929A	29A	15.0	14.25	15.75	25.0	9.0	600.0	0.25	0.5	11.4	100
WZSMF5930A	30A	16.0	15.20	16.80	23.4	10.0	600.0	0.25	0.5	12.2	94
WZSMF5931A	31A	18.0	17.10	18.90	20.8	12.0	650.0	0.25	0.5	13.7	83
WZSMF5932A	32A	20.0	19.00	21.00	18.7	14.0	650.0	0.25	0.5	15.2	75
WZSMF5933A	33A	22.0	20.90	23.10	17.0	17.5	650.0	0.25	0.5	16.7	68
WZSMF5934A	34A	24.0	22.80	25.20	15.6	19.0	700.0	0.25	0.5	18.2	63
WZSMF5935A	35A	27.0	25.65	28.35	13.9	23.0	700.0	0.25	0.5	20.6	56
WZSMF5936A	36A	30.0	28.50	31.50	12.5	26.0	750.0	0.25	0.5	22.8	50
WZSMF5937A	37A	33.0	31.35	34.65	11.4	33.0	800.0	0.25	0.5	25.1	45
WZSMF5938A	38A	36.0	34.20	37.80	10.4	38.0	850.0	0.25	0.5	27.4	42
WZSMF5939A	39A	39.0	37.05	40.95	9.6	45.0	900.0	0.25	0.5	29.7	38
WZSMF5940A	40A	43.0	40.85	45.15	8.7	53.0	950.0	0.25	0.5	32.7	35
WZSMF5941A	41A	47.0	44.65	49.35	8.0	67.0	1000.0	0.25	0.5	35.8	32
WZSMF5942A	42A	51.0	48.45	53.55	7.3	70.0	1100.0	0.25	0.5	38.8	29
WZSMF5943A	43A	56.0	53.20	58.80	6.7	86.0	1300.0	0.25	0.5	42.6	27
WZSMF5944A	44A	62.0	58.90	65.10	6.0	100.0	1500.0	0.25	0.5	47.1	24
WZSMF5945A	45A	68.0	64.60	71.40	5.5	120.0	1700.0	0.25	0.5	51.7	22
WZSMF5946A	46A	75.0	71.25	78.75	5.0	140.0	2000.0	0.25	0.5	56.0	20
WZSMF5947A	47A	82.0	77.90	86.10	4.6	160.0	2500.0	0.25	0.5	62.2	18
WZSMF5948A	48A	91.0	86.45	95.55	4.1	200.0	3000.0	0.25	0.5	69.2	16
WZSMF5949A	49A	100.0	95.00	105.00	3.7	250.0	3100.0	0.25	0.5	76.0	15
WZSMF5950A	50A	110.0	104.50	115.50	3.4	300.0	4000.0	0.25	0.5	83.6	14
WZSMF5951A	51A	120.0	114.00	126.00	3.1	380.0	4500.0	0.25	0.5	91.2	13
WZSMF5952A	52A	130.0	123.50	136.50	2.9	450.0	5000.0	0.25	0.5	98.8	12
WZSMF5953A	53A	150.0	142.50	157.50	2.5	600.0	6000.0	0.25	0.5	114.0	10
WZSMF5954A	54A	160.0	152.00	168.00	2.3	700.0	6500.0	0.25	0.5	121.6	9.4
WZSMF5955A	55A	180.0	171.00	189.00	2.1	900.0	7000.0	0.25	0.5	136.8	8.3
WZSMF5956A	56A	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)

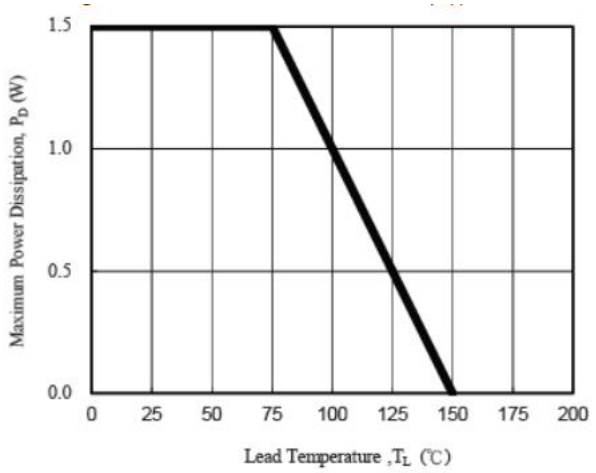


Fig. 1 - Power Temperature Derating Curve

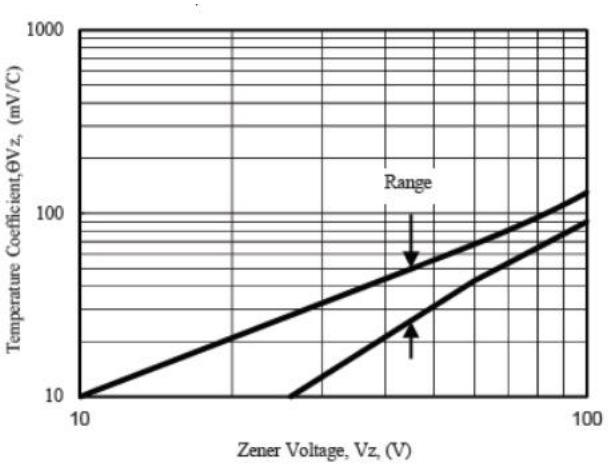


Fig. 2 - Temperature Coefficients v.s. Zener Voltage

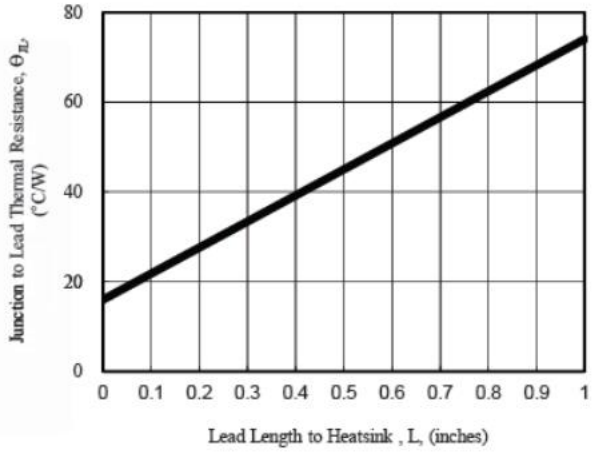


Fig. 3 - Typical Thermal Resistance v.s. Lead Length

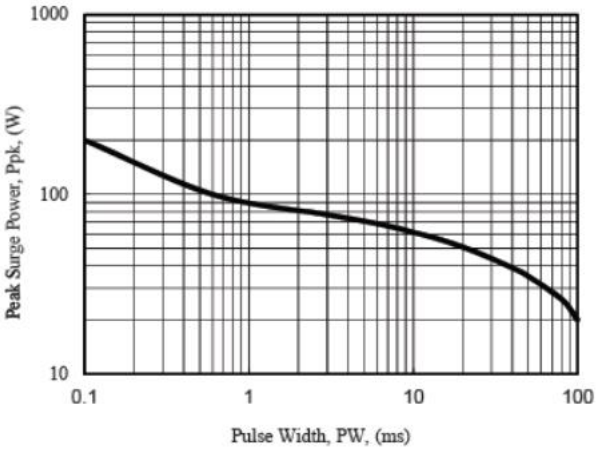


Fig. 4 - Maximum Surge Power

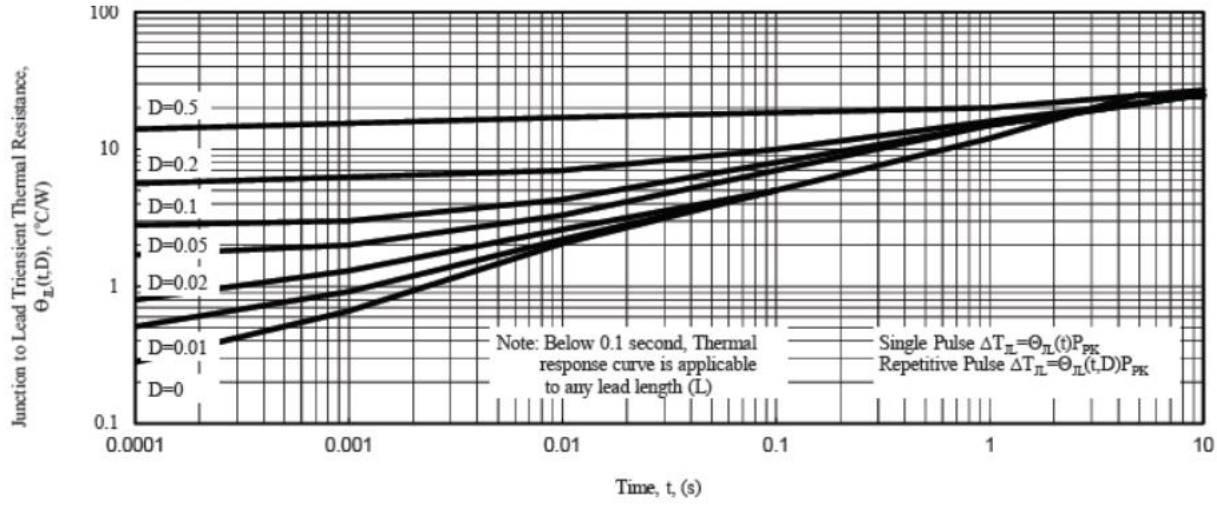
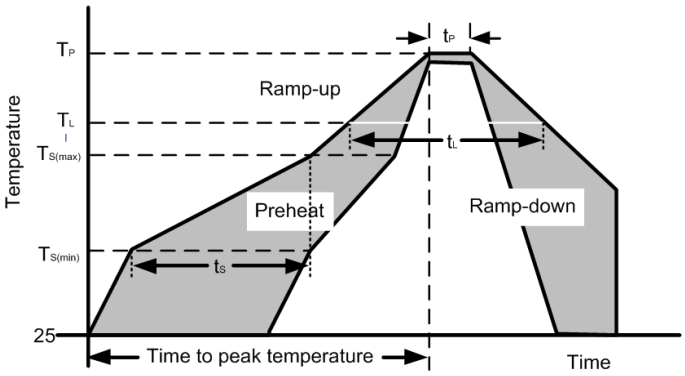


Fig. 5 - Typical Thermal Response L, Lead Length=3/8inch

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.

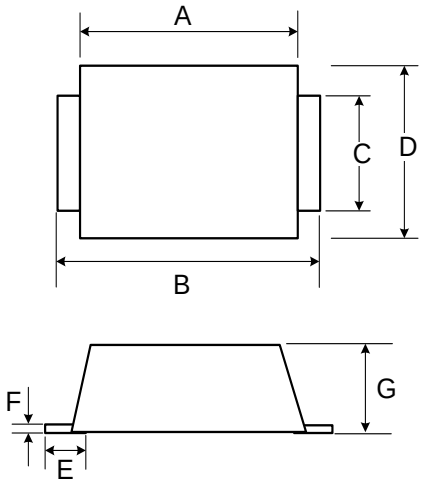
Soldering Parameters

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

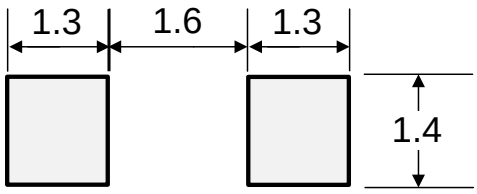


Outline Drawing – SOD-123FL

Ref.（mm）	Millimeters	
	Min.	Max.
A	2.50	3.00
B	3.40	3.95
C	0.70	1.20
D	1.50	2.00
E	0.30	0.95
F	0.05	0.26
G	0.90	1.35



Recommended Solder Pad Layout



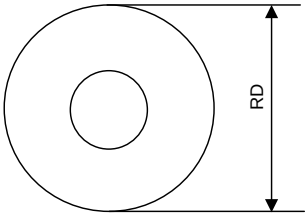
Dimensions in mm

Package Information

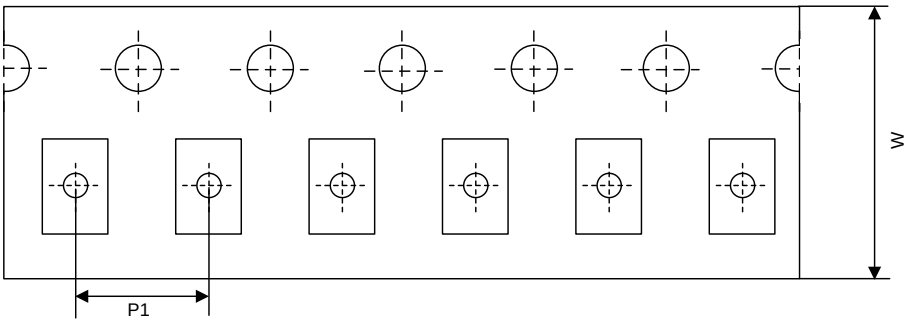
Package Type	Description	Quantity（pcs）
SOD-123FL	Tape & Reel Pack	3000

Tape and Reel Information

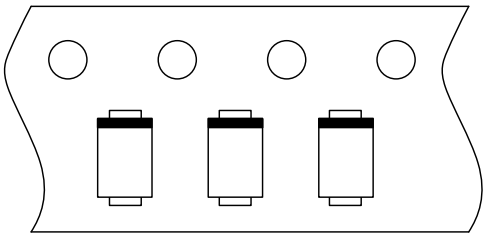
Reel Dimensions



Tape Dimensions



Quadrant Assignments for PIN1 Orientation in tape





User Direction of Feed

Top View

RD	Reel Dimensions	7inch
W	Overall width of the carrier tape	8mm
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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