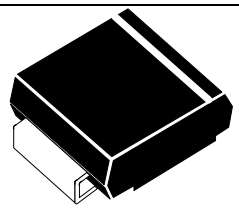
WZSMB3ZxxA

Surface Mount Silicon Zener Diodes

Features

- Built-in Strain relief
- Low inductance
- High peak reverse power dissipation
- Low reverse leakage
- For use in stabilizing and clipping with high Power rating
- MSL: Level 1



SMB
(JEDEC DO-214AA)

Mechanical Characteristics

- JEDEC DO-214AA package
- Molding compound flammability rating: UL 94V-0
- Marking: see marking code
- Packaging: Tape and Reel
- RoHS & HF Compliant

Absolute Maximum Rating

Rating	Symbol	Value	Units
DC Power dissipation at T_L=75°C	P_D	3.0	W
Maximum forward voltage at I_F=200mA	V_F	1.2	V
Junction temperature range	T_J	-55 to +150	℃
Storage temperature range	T_{STG}	-55 to +150	℃

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Electrical Characteristics

Part Number	Marking code	Nominal Zener Voltage $V_Z@I_{ZT}$			I_{ZT}(mA)	Maximum Zener Impedance			Maximum Reverse Leakage Current		Maximum DC Zener Current
		AVG	MIN	MAX		Z_{ZT} MAX.(Ω) @I_{ZT}	Z_{ZK} MAX.(Ω) @I_{ZK}	I_{ZK}(mA)	I_R(μA) @V_R	V_R(V)	I_{ZM}(mA)
WZSMB3Z3.3A	3H0	3.3	3.14	3.47	227.3	10.0	500.0	1.00	100.0	1.0	817.0
WZSMB3Z3.6A	3H1	3.6	3.42	3.78	208.3	9.0	500.0	1.00	100.0	1.0	749.0
WZSMB3Z3.9A	3H2	3.9	3.71	4.10	192.0	4.5	400.0	1.00	100.0	1.0	691.0
WZSMB3Z4.3A	3H3	4.3	4.09	4.52	174.0	4.5	400.0	1.00	50.0	1.0	627.0
WZSMB3Z4.7A	3H4	4.7	4.47	4.94	160.0	4.0	500.0	1.00	50.0	1.0	573.0
WZSMB3Z5.1A	3H5	5.1	4.85	5.36	147.0	3.5	550.0	1.00	10.0	1.0	528.0
WZSMB3Z5.6A	3H6	5.6	5.32	5.88	134.0	2.5	600.0	1.00	10.0	2.0	481.0
WZSMB3Z6.2A	3A0	6.2	5.89	6.51	121.0	1.5	700.0	1.00	10.0	3.0	435.0
WZSMB3Z6.8A	3A1	6.8	6.46	7.14	110.0	2.0	700.0	1.00	10.0	4.0	393.0
WZSMB3Z7.5A	3A2	7.5	7.13	7.88	100.0	2.0	700.0	0.50	10.0	5.0	360.0
WZSMB3Z8.2A	3A3	8.2	7.79	8.61	91.0	2.3	700.0	0.50	10.0	6.0	330.0
WZSMB3Z9.1A	3A4	9.1	8.65	9.56	82.0	2.5	700.0	0.50	10.0	7.0	297.0
WZSMB3Z10A	3A5	10.0	9.50	10.50	75.0	3.5	700.0	0.25	10.0	7.6	270.0
WZSMB3Z11A	3A6	11.0	10.45	11.55	68.0	4.0	700.0	0.25	0.5	8.4	225.0
WZSMB3Z12A	3A7	12.0	11.40	12.60	63.0	4.5	700.0	0.25	0.5	9.1	246.0
WZSMB3Z13A	3A8	13.0	12.35	13.65	58.0	4.5	700.0	0.25	0.5	9.9	208.0
WZSMB3Z14A	3A9	14.0	13.30	14.70	53.0	5.0	700.0	0.25	0.5	10.6	193.0
WZSMB3Z15A	3B0	15.0	14.25	15.75	50.0	5.5	700.0	0.25	0.5	11.4	180.0
WZSMB3Z16A	3B1	16.0	15.20	16.80	47.0	5.5	700.0	0.25	0.5	12.2	169.0
WZSMB3Z17A	3B2	17.0	16.15	17.85	44.0	6.0	750.0	0.25	0.5	13.0	159.0
WZSMB3Z18A	3B3	18.0	17.10	18.90	42.0	6.0	750.0	0.25	0.5	13.7	150.0
WZSMB3Z19A	3B4	19.0	18.05	19.95	40.0	7.0	750.0	0.25	0.5	14.4	142.0
WZSMB3Z20A	3B5	20.0	19.00	21.00	37.0	7.0	750.0	0.25	0.5	15.2	135.0
WZSMB3Z22A	3B6	22.0	20.90	23.10	34.0	8.0	750.0	0.25	0.5	16.7	123.0
WZSMB3Z24A	3B7	24.0	22.80	25.20	31.0	9.0	750.0	0.25	0.5	18.2	112.0
WZSMB3Z27A	3B8	27.0	25.65	28.35	28.0	10.0	750.0	0.25	0.5	20.6	100.0
WZSMB3Z30A	3B9	30.0	28.50	31.50	25.0	16.0	1000.0	0.25	0.5	22.5	90.0
WZSMB3Z33A	3C0	33.0	31.35	34.65	23.0	20.0	1000.0	0.25	0.5	25.1	82.0
WZSMB3Z36A	3C1	36.0	34.20	37.80	21.0	22.0	1000.0	0.25	0.5	27.4	75.0
WZSMB3Z39A	3C2	39.0	37.05	40.95	19.0	28.0	1000.0	0.25	0.5	29.7	69.0
WZSMB3Z43A	3C3	43.0	40.85	45.15	17.0	33.0	1500.0	0.25	0.5	32.7	63.0
WZSMB3Z47A	3C4	47.0	44.65	49.35	16.0	38.0	1500.0	0.25	0.5	35.6	57.0
WZSMB3Z51A	3C5	51.0	48.45	53.55	15.0	45.0	1500.0	0.25	0.5	38.8	53.0
WZSMB3Z56A	3C6	56.0	53.20	58.80	13.0	50.0	2000.0	0.25	0.5	42.6	48.0
WZSMB3Z62A	3C7	62.0	58.90	65.10	12.0	55.0	2000.0	0.25	0.5	47.1	44.0
WZSMB3Z68A	3C8	68.0	64.60	71.40	11.0	70.0	2000.0	0.25	0.5	51.7	40.0
WZSMB3Z75A	3C9	75.0	71.25	78.75	10.0	85.0	2000.0	0.25	0.5	56.0	36.0
WZSMB3Z82A	3F0	82.0	77.90	86.10	9.1	95.0	3000.0	0.25	0.5	62.2	33.0
WZSMB3Z91A	3F1	91.0	86.45	95.55	8.2	115.0	3000.0	0.25	0.5	69.2	30.0
WZSMB3Z100A	3F2	100.0	95.00	105.00	7.5	160.0	3000.0	0.25	0.5	76.0	27.0
WZSMB3Z110A	3F3	110.0	104.50	115.50	6.8	225.0	4000.0	0.25	0.5	83.6	25.0
WZSMB3Z120A	3F4	120.0	114.00	126.00	6.3	300.0	4500.0	0.25	0.5	91.2	22.0
WZSMB3Z130A	3F5	130.0	123.50	136.50	5.8	375.0	5000.0	0.25	0.5	98.8	21.0
WZSMB3Z140A	3F6	140.0	133.00	147.00	5.3	475.0	5000.0	0.25	0.5	106.4	19.0
WZSMB3Z150A	3F7	150.0	142.50	157.50	5.0	550.0	6000.0	0.25	0.5	114.0	18.0

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WZSMB3Z160A	3F8	160.0	152.00	168.00	4.7	625.0	6500.0	0.25	0.5	121.6	17.0
WZSMB3Z170A	3F9	170.0	161.50	178.50	4.4	650.0	7000.0	0.25	0.5	130.4	16.0
WZSMB3Z180A	3G1	180.0	171.00	189.00	4.2	700.0	7000.0	0.25	0.5	136.8	15.0
WZSMB3Z190A	3G2	190.0	180.50	199.50	4.0	800.0	8000.0	0.25	0.5	144.8	14.0
WZSMB3Z200A	3G3	200.0	190.00	210.00	3.7	875.0	8000.0	0.25	0.5	152.0	13.0
WZSMB3Z210A	3G4	210.0	199.50	220.50	3.5	950.0	8300.0	0.25	0.5	169.0	12.3
WZSMB3Z220A	3G5	220.0	209.00	231.00	3.3	1600.0	8500.0	0.25	0.5	178.0	11.6
WZSMB3Z230A	3G6	230.0	218.50	241.50	3.1	2000.0	9000.0	0.25	0.5	186.0	10.9
WZSMB3Z240A	3G7	240.0	228.00	252.00	2.9	2500.0	9000.0	0.25	0.5	195.0	10.2
WZSMB3Z250A	3G8	250.0	237.50	262.50	2.7	3000.0	9500.0	0.25	0.5	205.0	9.5

Typical Characteristics

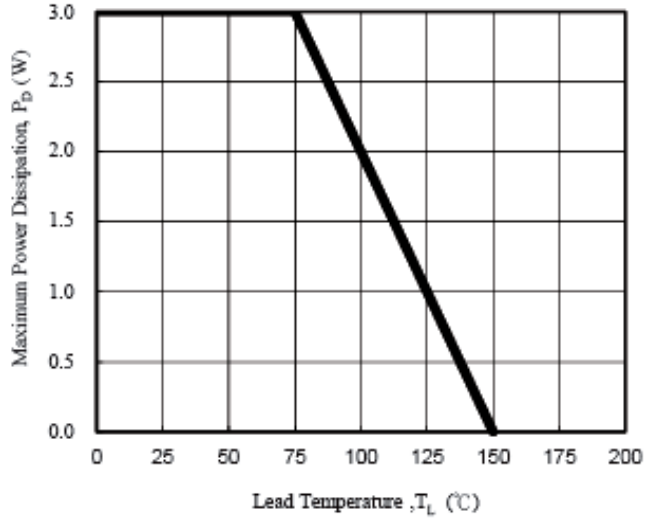


Fig. 1 - Power Temperature Derating Curve

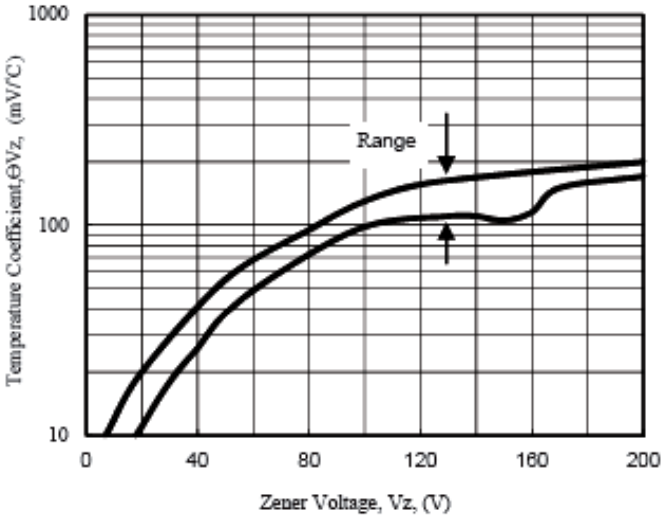


Fig. 2 - Temperature Coefficients v.s. Zener Voltage

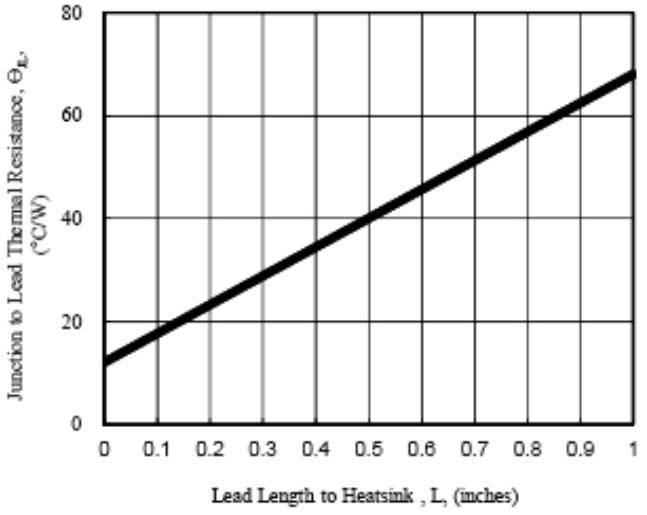


Fig. 3 - Typical Thermal Resistance v.s. Lead Length

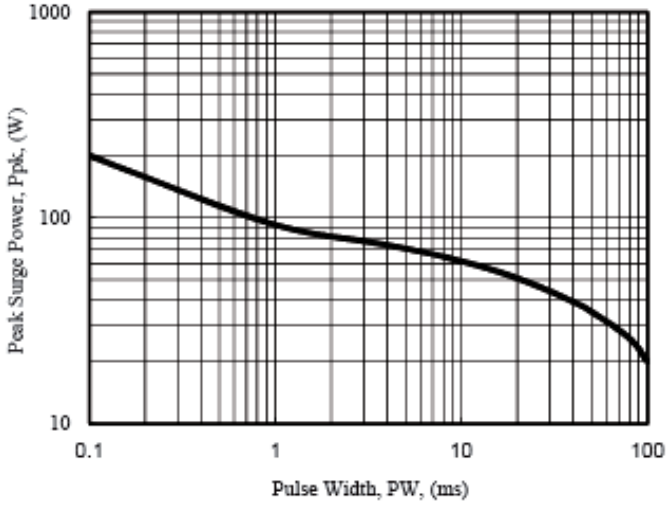


Fig. 4 - Maximum Surge Power

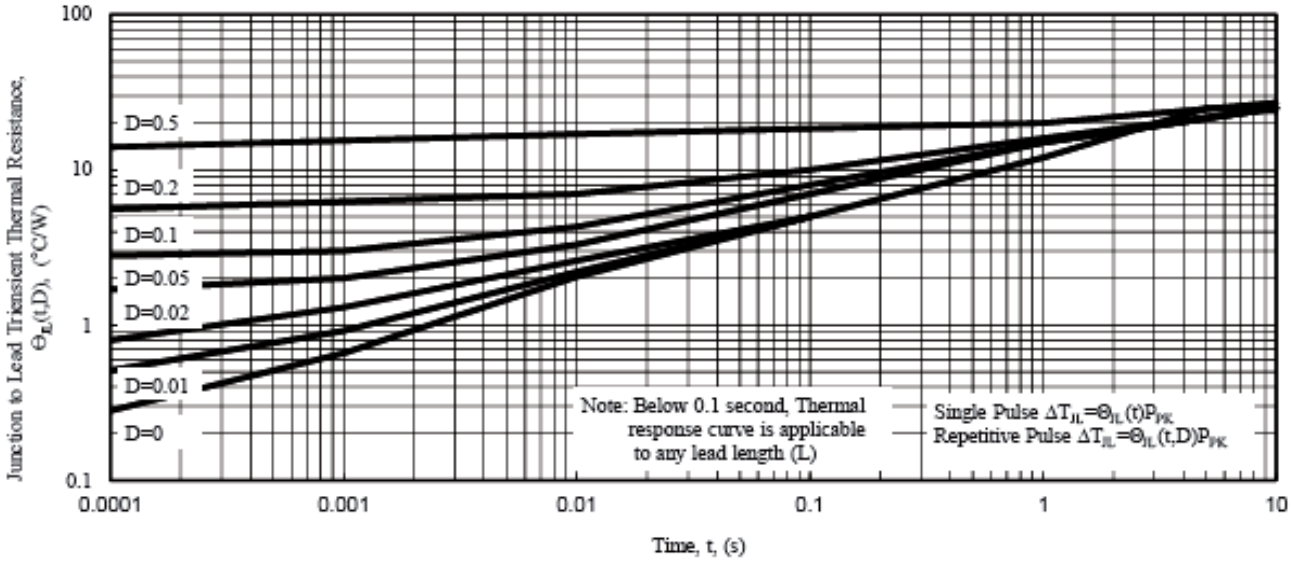
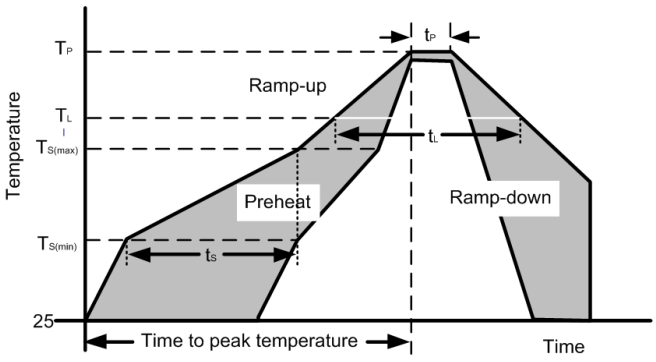


Fig. 5 - Typical Thermal Response L, Lead Length=3/8inch

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.

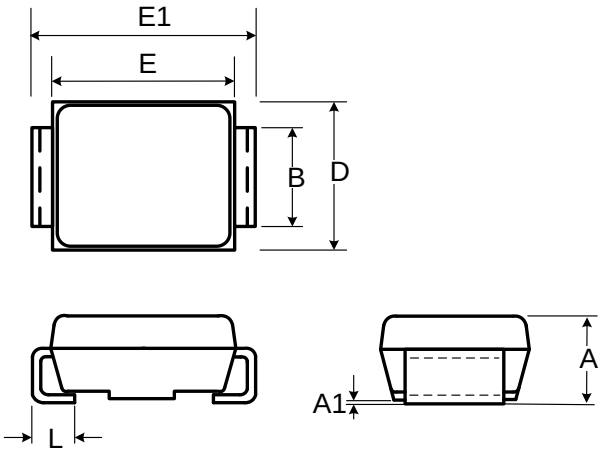
Recommended Soldering Parameters

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

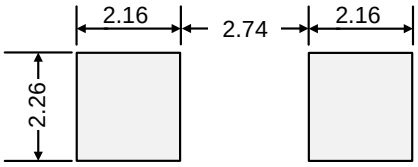


Outline Drawing – SMB(DO-214AA)

Ref.（mm）	Millimeters	
	Min.	Max.
A	2.05	2.60
A1	-	0.30
B	1.80	2.20
E	4.05	4.75
E1	5.08	5.59
D	3.30	3.94
L	0.76	1.52

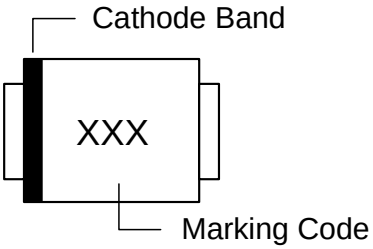


Recommended Solder Pad Layout



Dimensions in mm

Marking Code



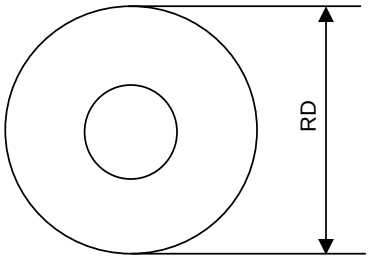
Package Information

Package Type	Description	Quantity（pcs）
SMB(DO-214AA)	Tape & Reel -12mm/13″ tape	3000

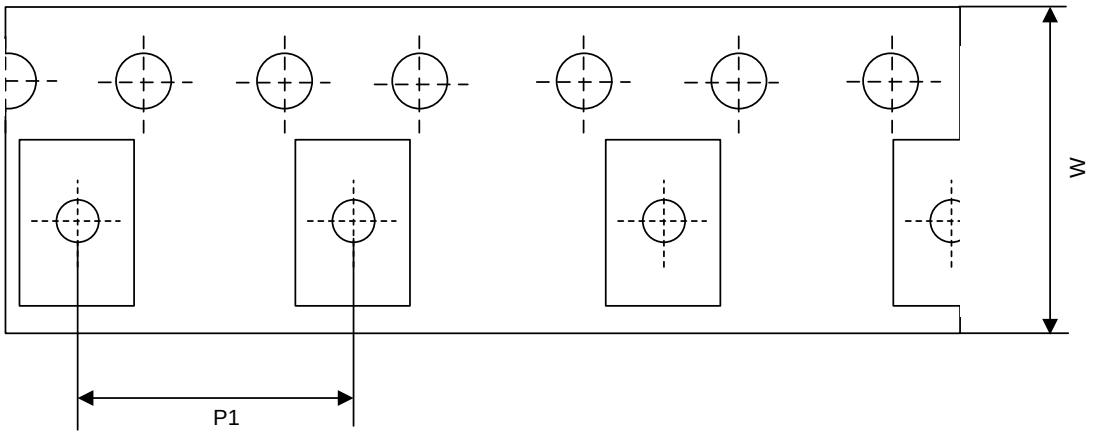
Tape and Reel Information

RD	Reel Dimensions	13 inch
W	Overall width of the carrier tape	12 mm
P1	Pitch between successive cavity centers	8 mm

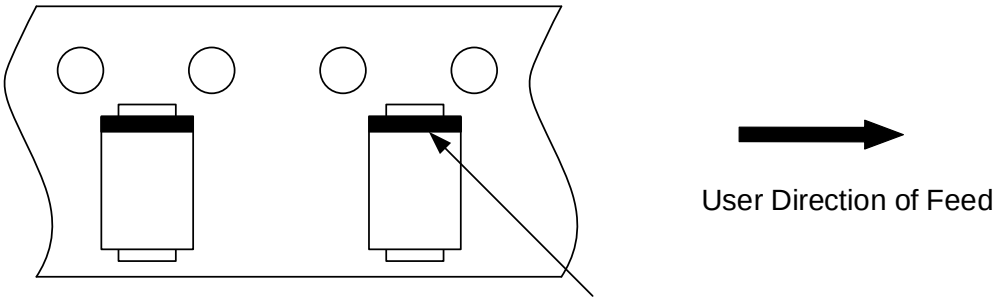
Reel Dimensions



Tape Dimensions



Quadrant Assignments for PIN1 Orientation in tape



Top View

Uni-directional products only

Contact Information

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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.

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