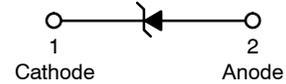


Zener Protection Diode

NZ8P24VMX2WT5G



The NZ8P24V is designed for applications requiring transient overvoltage ESD protection. They are intended for use to protect voltage sensitive components from ESD and other harmful transient voltage events. This device provides a single channel of uni-directional protection in an, ultra-compact X2DFNW2 1.0 x 0.6 mm package.

Features

- Precise Clamping Voltage
- High ESD Ratings
- Wettable Flank Package for Optimal Automated Optical Inspection (AOI)
- SZ Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable
- These Devices are Pb-Free, Halogen Free/BFR Free and are RoHS Compliant

Typical Applications

- Automotive ECU's
- IVN – In Vehicle Networking
- Voltage Sensitive Circuits

MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

Rating	Symbol	Value	Unit
IEC 61000-4-2 Contact IEC 61000-4-2 Air ISO 10605 Contact (330 pF / 330 Ω) ISO 10605 Contact (330 pF / 2 kΩ) ISO 10605 Contact (150 pF / 2 kΩ)	ESD	±30	kV
Maximum Reverse Peak Pulse Current (8 x 20 μs) Maximum Reverse Peak Pulse Current (10 x 1000 μs)	I _{pp}	4.5 1.0	A
Junction and Storage Temperature Range	T _J , T _{stg}	-55 to +150	°C
Lead Solder Temperature – Maximum (10 Second Duration)	T _L	260	°C

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.



X2DFNW2
CASE 711BG

DEVICE MARKING INFORMATION



XX = Specific Device Code
M = Date Code

ORDERING INFORMATION

Device	Package	Shipping [†]
NZ8P24VMX2WT5G	X2DFNW2 (Pb-Free)	8000 / Tape & Reel
SZNZ8P24VMX2WT5G		

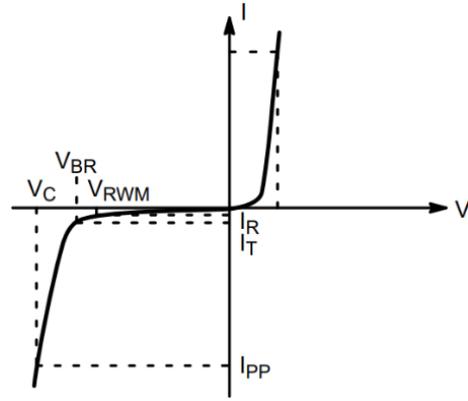
[†]For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

NZ8P24VMX2WT5G

ELECTRICAL CHARACTERISTICS

($T_A = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current



*See Application Note AND8308/D for detailed explanations of datasheet parameters.

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}	(Note 1)			24	V
Breakdown Voltage	V_{BR}	$I_T = 5 \text{ mA}$ (Note 2) $I_T = 5 \text{ mA @ } 150^\circ\text{C}$	26.3	27	27.7 31.2	V
Reverse Leakage Current	I_R	$V_{RWM} = 24 \text{ V}$		10	100	nA
Clamping Voltage (8/20 μs)	V_C	$I_{PP} = 1.0 \text{ A}$			35	V
Clamping Voltage (8/20 μs)	V_C	$I_{PP} = 4.5 \text{ A}$			56	V
Clamping Voltage (10/1000 μs)	V_C	$I_{PP} = 0.87 \text{ A}$			44	V
Junction Capacitance	C_J	$V_R = 0 \text{ V}, f = 1 \text{ MHz}$		22		pF

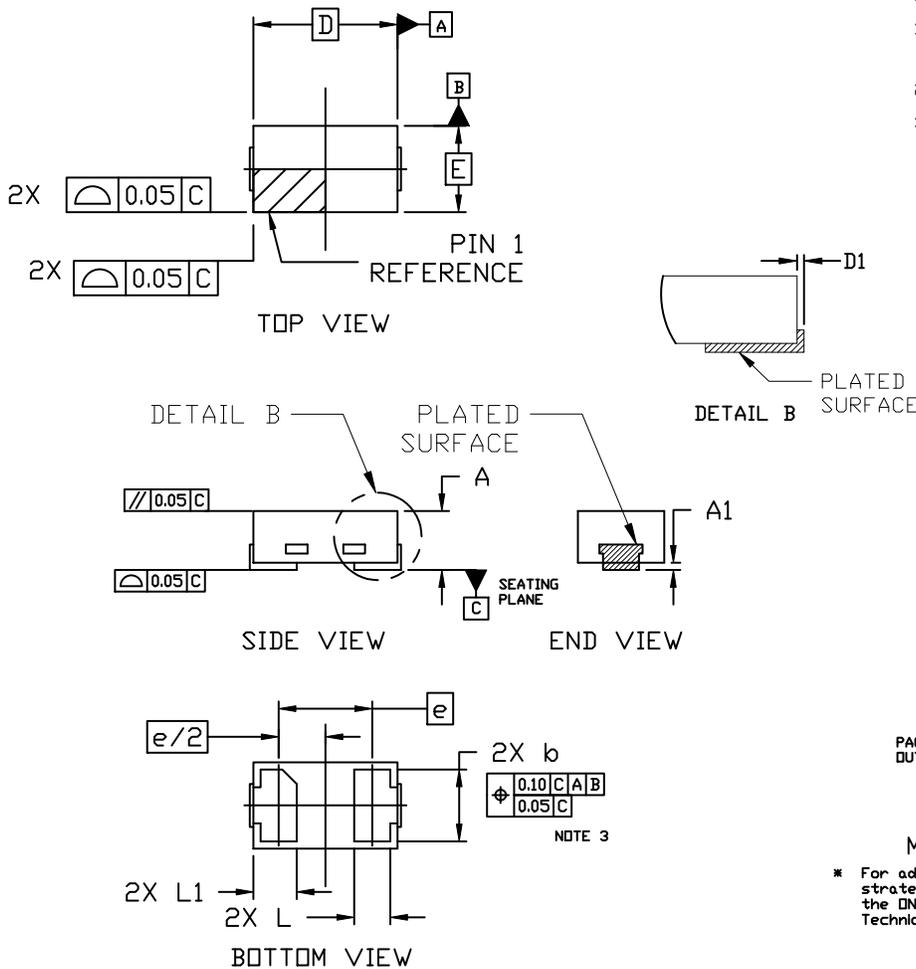
Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

- Surge protection devices are normally selected according to the working peak reverse voltage (V_{RWM}), which should be equal or greater than the DC or continuous peak operating voltage level.
- V_{BR} is measure at pulse test current I_T .

NZ8P24VMX2WT5G

PACKAGE DIMENSIONS

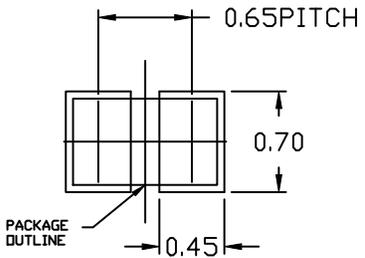
X2DFNW2 1.0x0.6, 0.65P
CASE 711BG
ISSUE C



NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 2009.
2. CONTROLLING DIMENSION: MILLIMETERS
3. DIMENSION *b* APPLIES TO THE PLATED TERMINAL AND IS MEASURED BETWEEN 0.15 AND 0.30 FROM THE TERMINAL TIP.

DIM	MILLIMETERS		
	MIN.	NDM.	MAX.
A	0.34	0.37	0.40
A1	---	---	0.05
<i>b</i>	0.45	0.50	0.55
D	0.90	1.00	1.10
D1	---	---	0.05
E	0.50	0.60	0.70
<i>e</i>	0.65 BSC		
L	0.22 REF		
L1	0.24	0.285	0.34



RECOMMENDED MOUNTING FOOTPRINT

- * For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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