DFNWB2.5×1-10L Plastic-Encapsulate Diodes

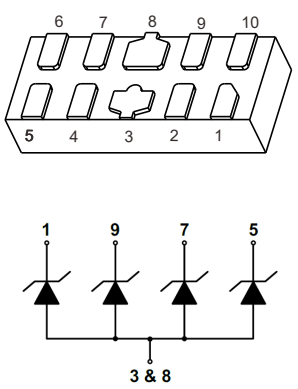
ESDUEG3V3D4F Uni-direction ESD Protection Array

DESCRIPTION

Designed to protect voltage sensitive electronic components from ESD and other transients. Excellent clamping capability, low leakage, low capacitance, and fast response time provide best in class protection on designs that are exposed to ESD.

The combination of small size, low capacitance, and high level of ESD protection makes them a flexible solution for applications such as HDMI, Display Port TM, and MDDI interfaces. It is designed to replace multiplayer varistors (MLV) in consumer equipments applications such as mobile phone, notebook, PAD, STB, LCD TV etc.

DFNWB2.5×1-10L



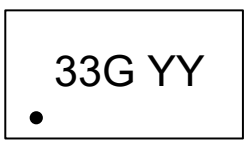
FEATURES

- Uni-directional ESD protection of four lines
- Low capacitance: 0.35 pF
- Low reverse stand−off voltage: 3.3V
- Low reverse clamping voltage
- Low leakage current
- Excellent package:2.5mm×1.0mm×0.5mm
- Fast response time
- JESD22-A114-B ESD Rating of class 3B per human body model
- IEC 61000-4-2 Level 4 ESD protection

APPLICATIONS

- Computers and peripherals
- Audio and video equipment
- High speed data lines
- Mobile phone
- High Definition Multi-Media Interface (HDMI)
- Digital Visual Interface (DVI)
- LVDS
- PAD
- Other electronics equipments Communication systems

MARKING



Front Side
33G=Device Code
YY=Date Code
Solid dot=Pin1 indicator

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Parameter		Symbol	Limit	Unit
IEC 61000-4-2 ESD Voltage	Air Model	V_{ESD}(1)	±30	kV
	Contact Model		±30	
JESD22-A114-B ESD Voltage	Per Human Body Model		±30	
ESD Voltage	Machine Model		±0.4	
Peak Pulse Power		P_{PP}(2)	85.5	W
Peak Pulse Current		I_{PP}(2)	9.5	A
Lead Solder Temperature − Maximum (10 Second Duration)		T_L	260	℃
Operation Junction and Storage Temperature Range		T_J,T_{stg}	-55 ~ +150	℃

(1).Device stressed with ten non-repetitive ESD pulses,per channel(I/O to GND).

(2).Non-repetitive current pulse 8/20μs exponential decay waveform according to IEC61000-4-5.

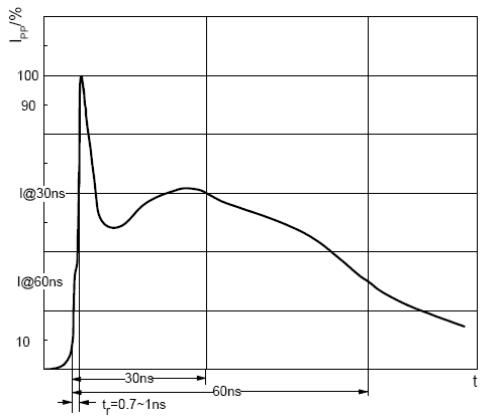
ESD standards compliance

IEC61000-4-2 Standard

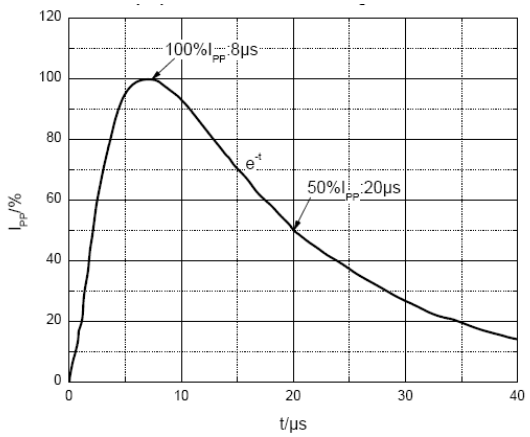
Contact Discharge		Air Discharge	
Level	Test Voltage kV	Level	Test Voltage kV
1	2	1	2
2	4	2	4
3	6	3	8
4	8	4	15

JESD22-A114-B Standard

ESD Class	Human Body Discharge V
0	0～249
1A 1B 1C	250～499 500～999 1000～1999
2	2000～3999
3A 3B	4000～7999 8000～15999



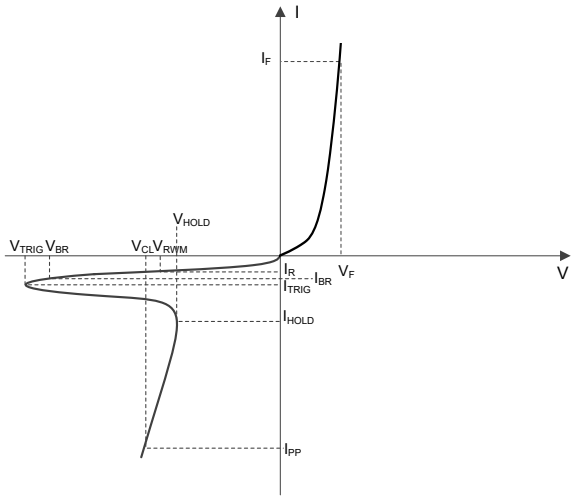
ESD pulse waveform according to IEC61000-4-2



8/20μs pulse waveform according to IEC 61000-4-5

ELECTRICAL PARAMETER

Symbol	Parameter
V_{CL}	Clamping Voltage @ IPP
I_{PP}	Peak Pulse Current
V_{TRIG}	Reverse trigger voltage
I_{TRIG}	Reverse trigger current
V_{BR}	Reverse breakdown Voltage
I_{BR}	Reverse breakdown current
V_{RWM}	Reverse Standoff Voltage
I_R	Reverse Leakage Current @ VRWM
V_{HOLD}	Reverse Holding Voltage
I_{HOLD}	Reverse Holding Current
V_F	Forward Voltage@ I_F
I_F	Forward Current



V-I characteristics for a Uni-direction ESD Protection Array

ELECTRICAL CHARACTERISTICS(T_a=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Per channel(I/O to GND unless otherwise specified)						
Reverse stand off voltage	V_{RWM} (1)				3.3	V
Reverse leakage current	I_R	V_{RWM}=3.3V			100	nA
Breakdown voltage	$V_{(BR)}$	I_T=1mA	5.5		7.8	V
Forward voltage	V_F	I_F=10mA	0.5		1.2	V
Clamping voltage	V_C (2)	I_{PP}=1A		4.7	6	V
		I_{PP}=9.5A		7.5	9	V
TLP clamping voltage	V_C	I_{TLP} =8A, Pulse Width=100ns		5.7		V
		I_{TLP} =16A, Pulse Width=100ns		7.4		V
Dynamic resistance	R_{DYN} (3)	Pulse Width=100ns		0.21		Ω
Junction capacitance	C_J	V_R =0V, f=1MHz		0.35	0.5	pF
		V_R =0V, f=1MHz (IO TO IO)		0.17	0.25	pF

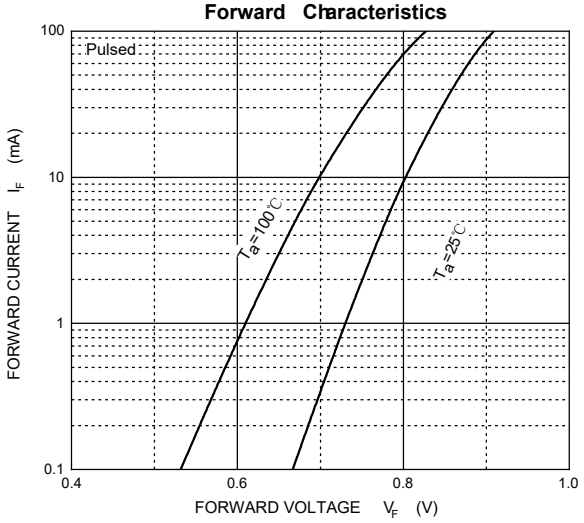
(1).Other voltages available upon request.

(2).Non-repetitive current pulse 8/20μs exponential decay waveform according to IEC61000-4-5.

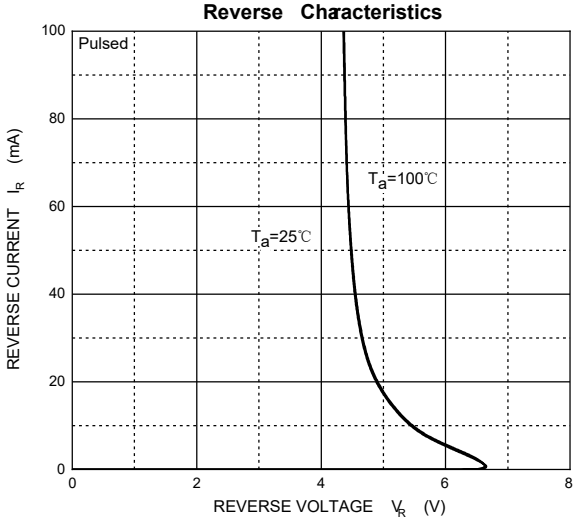
(3).R_{DYN} is calculated from 8A to 16A.

TYPICAL CHARACTERISTICS

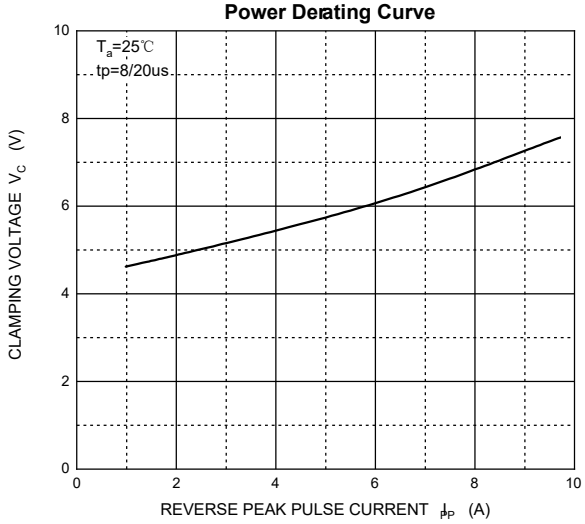
Forward Characteristics



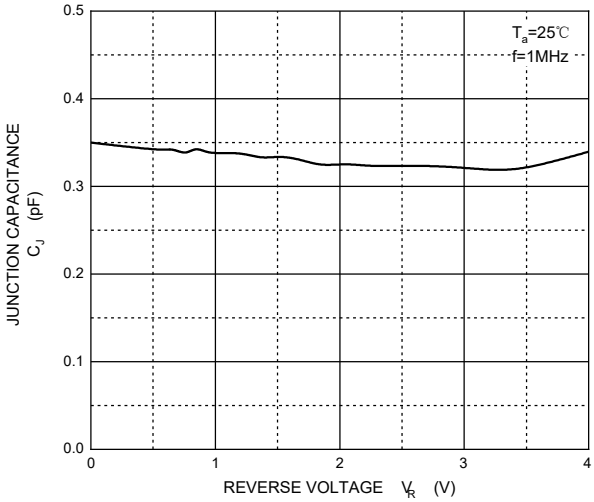
Reverse Characteristics



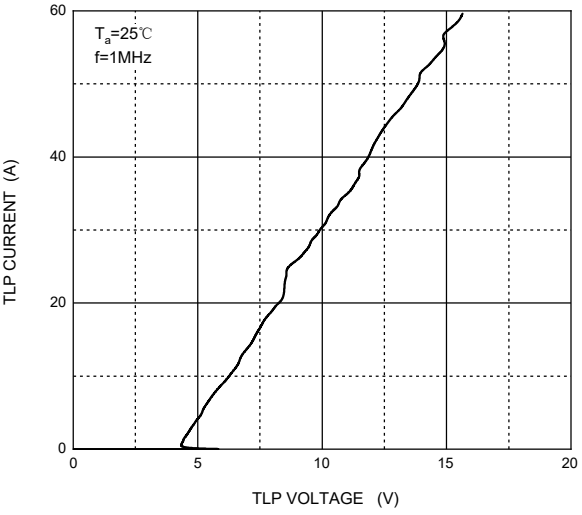
Power Derating Curve



Capacitance Characteristics

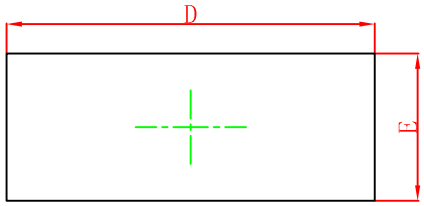


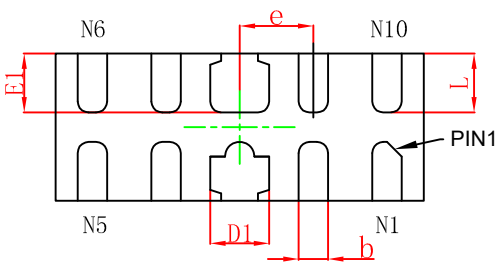
Transmission Line Pulsing (TLP) Measurement



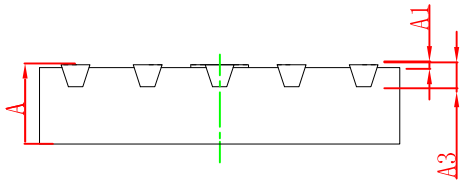
PACKAGE OUTLINE AND PAD LAYOUT INFORMATION

DFNWB2.5×1-10L Package Outline Dimensions(Unit:mm)





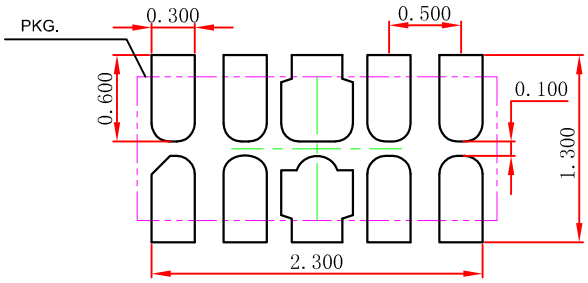
Bottom View



Side View

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.450	0.550	0.017	0.022
A1	0.000	0.050	0.000	0.002
A3	0.152REF.		0.006REF.	
D	2.450	2.550	0.096	0.100
E	0.950	1.050	0.037	0.041
D1	0.350	0.450	0.014	0.018
E1	0.350	0.450	0.014	0.018
b	0.150	0.250	0.006	0.010
e	0.500TYP.		0.020TYP.	
L	0.350	0.450	0.014	0.018

DFNWB2.5×1-10L Suggested Pad Layout



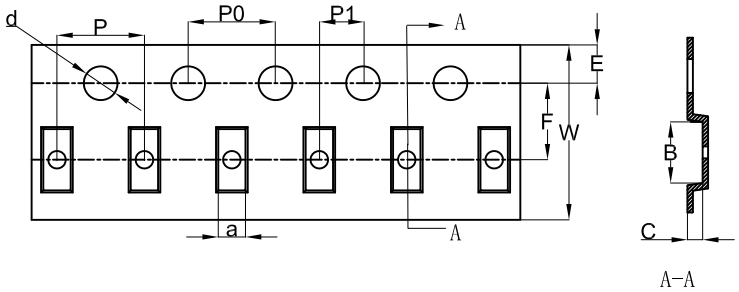
Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.050mm.
3.The pad layout is for reference purposes only.

NOTICE

SZCJ reserves the right to make modifications,enhan nts,improvements,corrections or other es without further notice to any product herein. SZCJ does not assume any liability arising out of the application or use of any product described h

TAPE AND REEL INFORMATION

DFNWB2.5×1-10L Embossed Carrier Tape



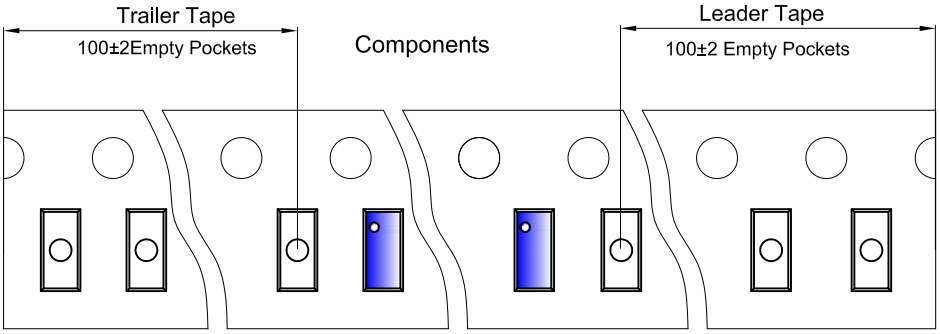
Packaging Description:

DFNWB2.5×1-10L parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000 units per 7" or 17.8cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

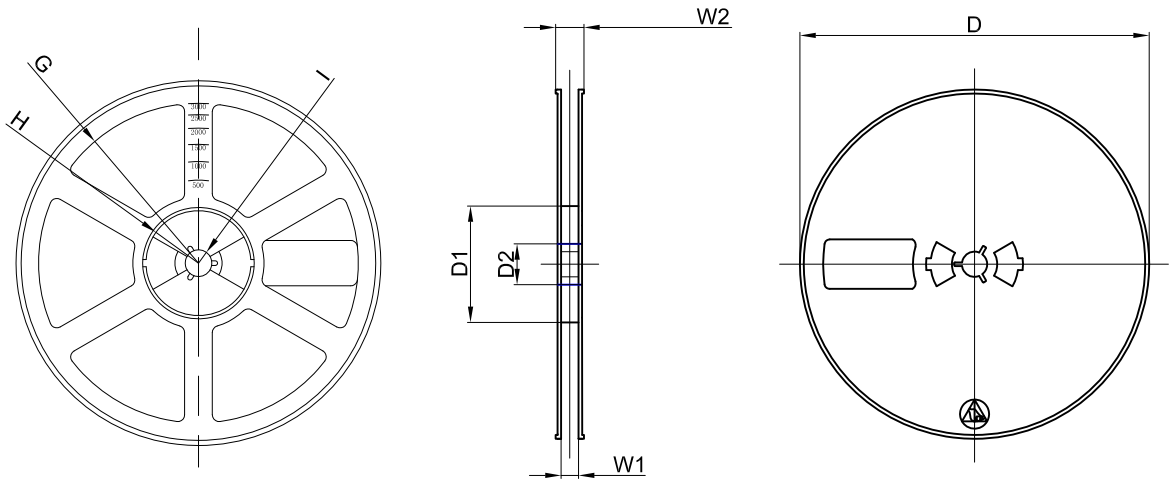
ALL DIM IN mm

Dimensions are in millimeter										
Pkg type	a	B	C	d	E	F	P0	P	P1	W
DFNWB2.5×1.0-10L	1.23	2.70	0.7	Ø1.55	1.75	3.50	4.00	4.00	2.00	8.00

DFNWB2.5×1-10L Tape Leader and Trailer



DFNWB2.5×1-10L Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Ø180.00	60.00	13.00	R78.00	R25.60	R6.50	9.50	13.10

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 inch	30,000 pcs	203×203×195	120,000 pcs	438×438×220	