



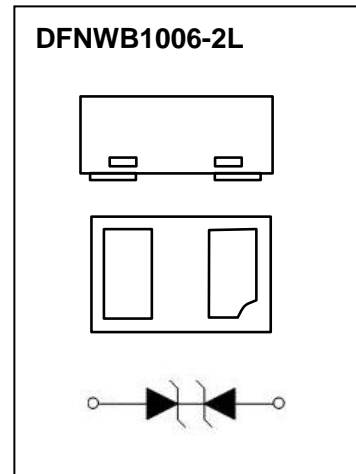
# DFNWB1006-2L Plastic-Encapsulate Diodes

## ESDSU5V0A1 Bi-direction ESD Protection Diode

### 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.



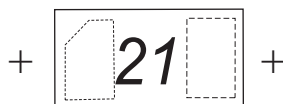
### FEATURES

- Bi-directional ESD protection of one line
- Low capacitance: 0.24pF
- Reverse stand-off voltage: 5V
- Low reverse clamping voltage
- Low leakage current
- Excellent package: 1.0mm × 0.6mm × 0.5mm
- Fast response time
- JESD22-A114-B ESD Rating of class 3B per human body model
- IEC 61000-4-2 Level 3 ESD protection

### APPLICATIONS

- Computers and peripherals
- High speed data lines
- Audio and video equipment
- Cellular handsets and accessories
- Portable electronics
- USB interfaces
- Other electronics equipments communication systems

### MARKING



Front side

ZZ = Device code

**MAXIMUM RATINGS (  $T_a=25^{\circ}\text{C}$  unless otherwise noted )**

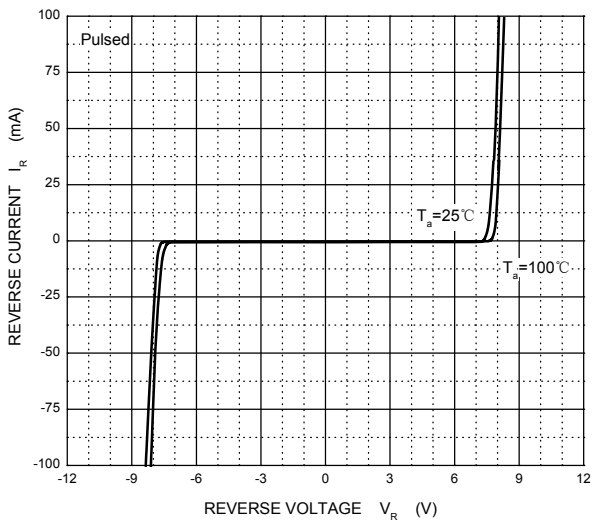
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 $\mu\text{s}$ )	Ppk	80	W
Peak Pulse Current (8/20 $\mu\text{s}$ )	I <sub>PP</sub>	4	A
ESD per IEC 61000-4-2 (Air)	V <sub>ESD</sub>	$\pm 20$	kV
ESD per IEC 61000-4-2 (Contact)		$\pm 15$	
Operation Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 ~ +150	$^{\circ}\text{C}$

**Electrical Characteristics (  $T_A=25^{\circ}\text{C}$  unless otherwise specified)**

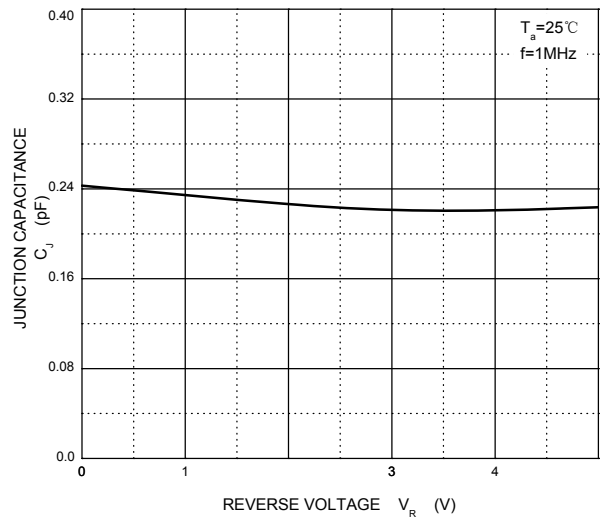
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V <sub>RWM</sub>			5	V	
Breakdown Voltage	V <sub>BR</sub>	6.5		9	V	I <sub>T</sub> = 1mA
Reverse Leakage Current	I <sub>R</sub>			0.5	$\mu\text{A}$	V <sub>RWM</sub> = 5V
Clamping Voltage	V <sub>C</sub>			12	V	I <sub>PP</sub> = 1A (8 x 20 $\mu\text{s}$ pulse)
Clamping Voltage	V <sub>C</sub>			20	V	I <sub>PP</sub> = 4A (8 x 20 $\mu\text{s}$ pulse)
Junction Capacitance	C <sub>J</sub>		0.24	0.3	pF	V <sub>R</sub> = 0V, f = 1MHz

TYPICAL CHARACTERISTICS

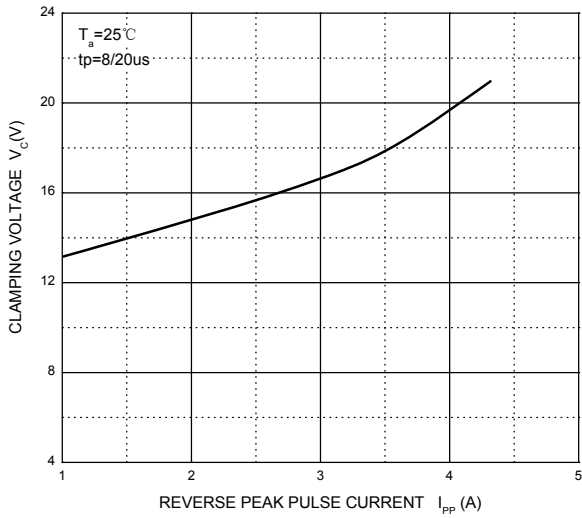
Reverse Characteristics



Capacitance Characteristics

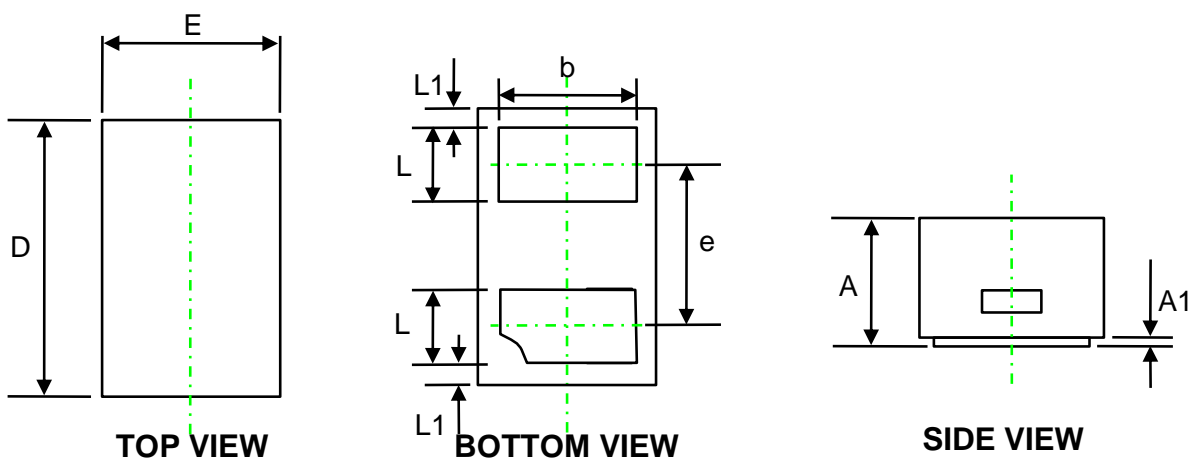


$V_c$  —  $I_{pp}$



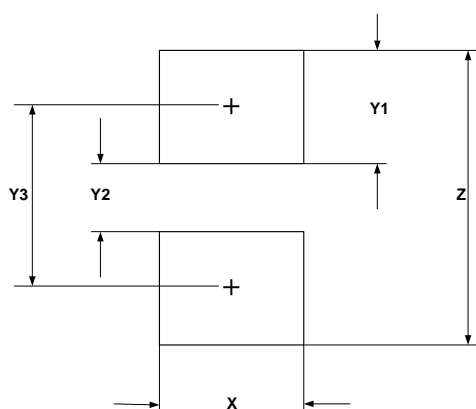
**PACKAGE OUTLINE AND PAD LAYOUT INFORMATION**

**DFNWB1006-2L Package Outline Drawing**



Symbol	Dimensions In Millimeters (mm)		
	Min.	Typ.	Max.
A	0.44	0.47	0.50
A1	0.00	0.03	0.05
D	0.95	1.00	1.08
E	0.55	0.60	0.68
b	0.40	0.50	0.60
e	-	0.65	-
L	0.20	0.25	0.30
L1	0.05 REF.		

**Suggested Land Pattern**



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
X	0.60	0.024
Y1	0.50	0.020
Y2	0.30	0.012
Y3	0.80	0.032
Z	1.30	0.052

**NOTICE**

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