

## Features

- Protects one I/O or power line
- Completely Compatible with SOD923
- Low Clamping Voltage
- Working Voltage: 12V
- Low Leakage Current
- Response Time is Typically < 1 ns

## IEC COMPATIBILITY (EN61000-4)

- IEC 61000-4-2 (ESD)  $\pm 15\text{kV}$  (air),  $\pm 8\text{kV}$  (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)

## Mechanical Characteristics

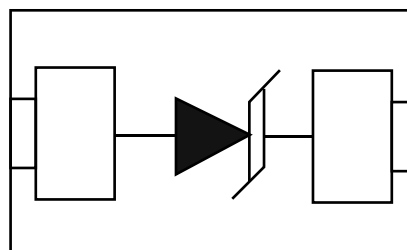
- DFN- 2L package (0402 size)
- Molding compound flammability rating:  
UL 94V-0
- Marking: Marking Code
- Packaging: Tape and Reel per EIA481
- RoHS/WEEE Compliant

## Applications

- Laptop Computers
- Cellular Phones
- Digital Cameras
- Personal Digital Assistants (PDAs)



## Schematic & PIN Configuration

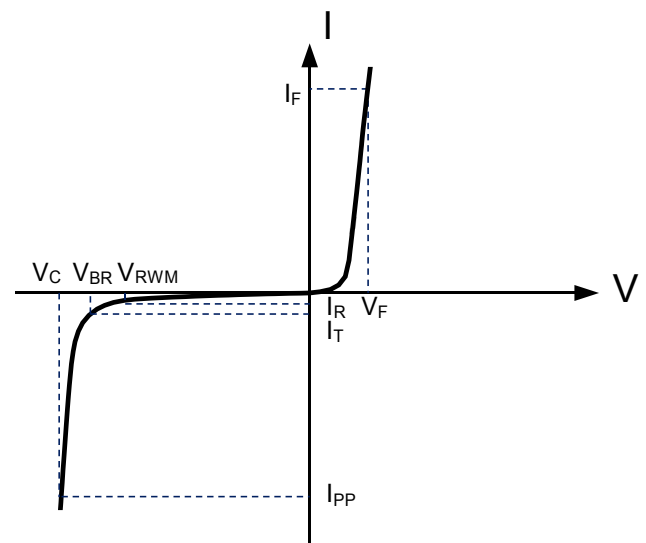


Unidirectional

Absolute Maximum Rating			
Rating	Symbol	Value	Units
Peak Pulse Power ( $t_p=8/20\mu s$ )	$P_{PP}$	100	Watts
Electrostatic discharge Voltage (See Note1 ,2)	$V_{ESD}$	8KV (contact)	Volts
		15KV (air)	
Operating Temperature	$T_J$	-55 to + 150	$^{\circ}C$
Storage Temperature	$T_{STG}$	-55 to +150	$^{\circ}C$

### Electrical Parameters (T=25 $^{\circ}C$ )

Symbol	Parameter
$V_{RWM}$	Working Peak Reverse Voltage
$I_R$	Maximum Reverse Leakage Current @ $V_{RWM}$
$V_{BR}$	Breakdown Voltage @ $I_T$
$I_T$	Test Current
$I_F$	Forward Current
$V_F$	Forward Voltage @ $I_F$



### Electrical Characteristics

BDFN2A121V						
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	$V_{RWM}$				12	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1mA$	13.3			V
Reverse Leakage Current	$I_R$	$V_{RWM}=5V, T=25^{\circ}C$			0.5	$\mu A$
Peak Pulse Current	$I_{PP}$	$t_p=8/20\mu s$			5	A
Clamping Voltage	$V_C$	$I_{PP}=1A, t_p=8/20\mu s$			20	V
Clamping Voltage	$V_C$	$I_{PP}=5 A, t_p=8/20\mu s$			26	V
Junction Capacitance	$C_j$	$V_R=0V, f=1MHz$		50		pF

**Note1:** ESD Pulse Waveform according to IEC 61000-4-2, see Table1 and Figure1

**Note2:** ESD Clamping Voltage see Figure2 and3.

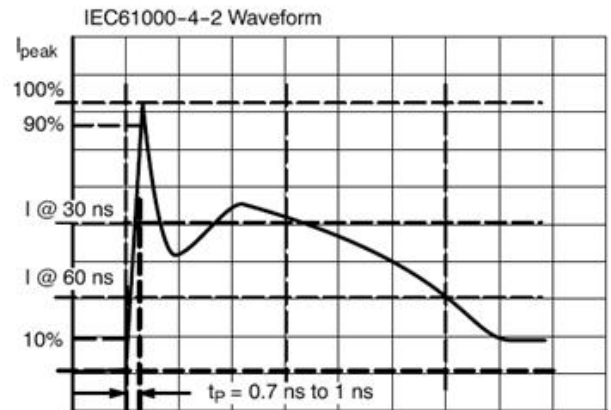
**Note3:** The clamping Voltage data is taken with a 100x attenuator.

## Typical Characteristics

**Table 1: IEC 61000-4-2 Discharge Parameters**

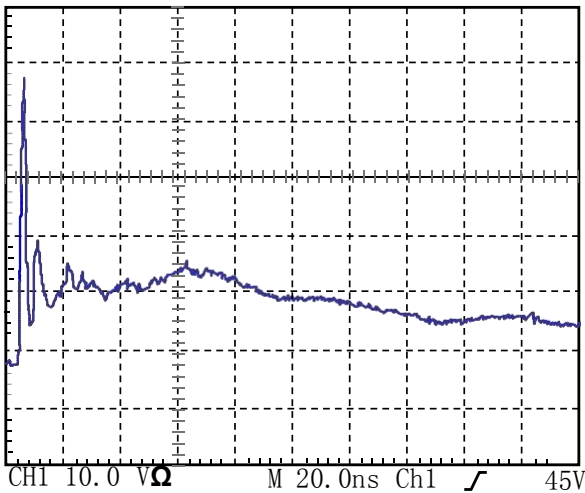
Level	First Peak Current (A)	Peak Current at 30 ns (A)	Peak Current at 60 ns (A)	Test Voltage (Contact Discharge) (kV)	Test Voltage (Air Discharge) (kV)
1	7.5	4	2	2	2
2	15	8	4	4	4
3	22.5	12	6	6	8
4	30	16	8	8	15

**Figure 1: IEC 61000-4-2 Waveform**



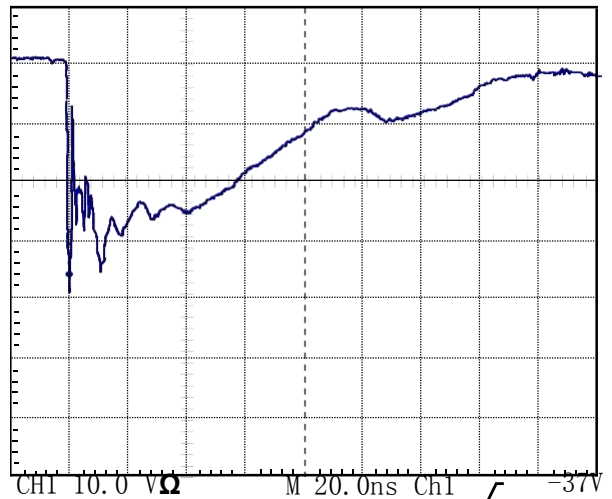
**Figure 2 ESD Clamping Voltage Screenshot Positive 8 kV contact per IEC 61000-4-2**

Tek Run: 2.50GS/s Sample

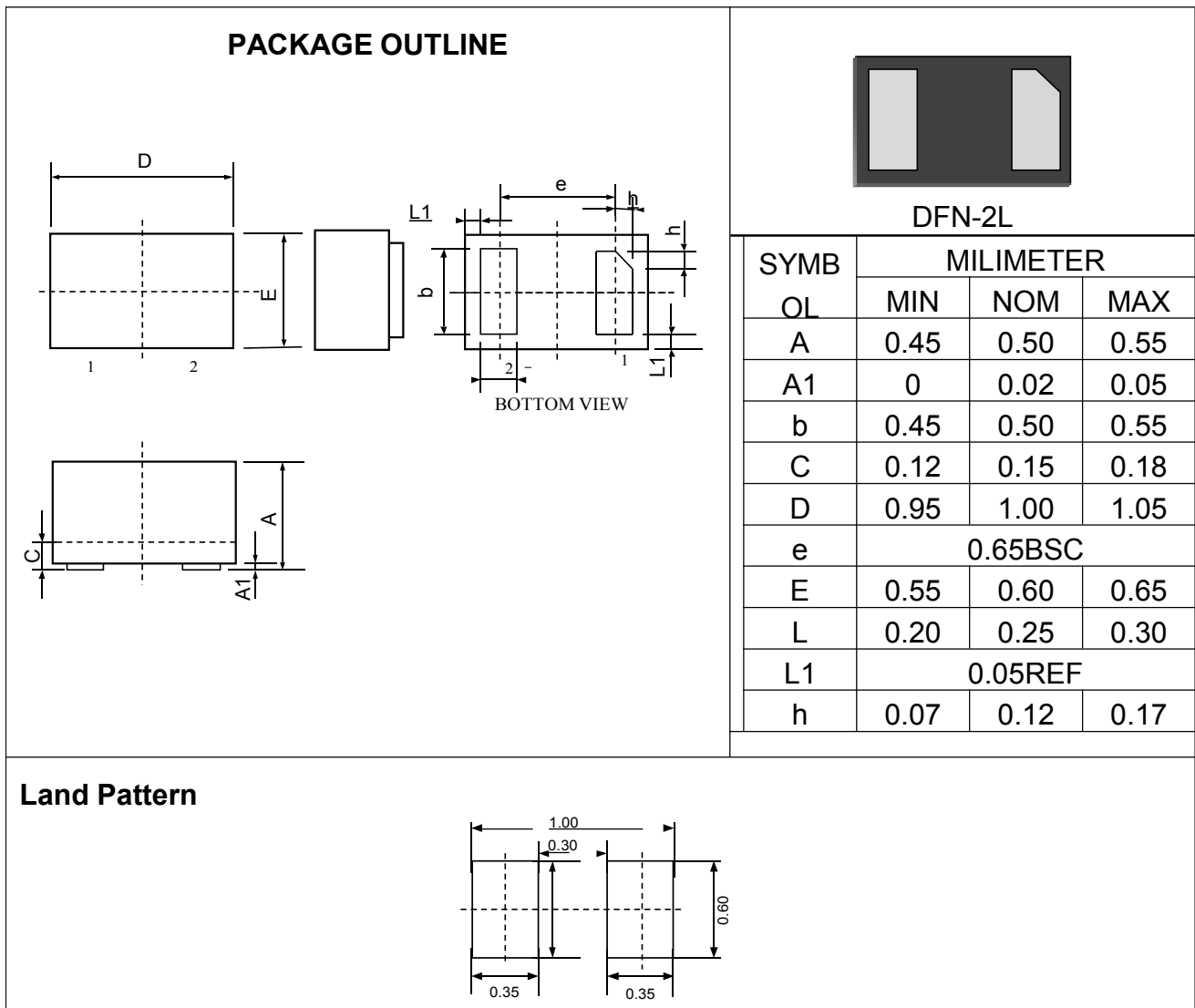


**Figure 3 ESD Clamping Voltage Screenshot Negative 8 kV contact per IEC 61000-4-2**

Tek Run: 2.50GS/s Sample



## Outline Drawing – DFN-2L



### Marking Codes

Part Number	Marking Code
BDFN2A121V	PA

### Package Information

Qty: 10k/Reel

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[P6KE13CA](#) [P6KE43CA](#) [P6KE6.8CA](#) [P6KE8.2](#) [P6SMBJ20CA](#) [JANTX1N6072A](#) [SR2835ESKG](#) [SA90CA](#)