

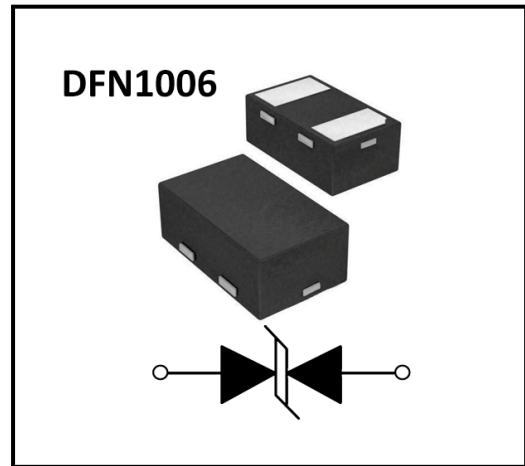
# BNPESD18VF1BL

ESD Protection Diode

## Features

- 32Watts peak pulse power (tp = 8/20μs)
- Bidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping Voltage
- Low leakage current
- IEC 61000-4-2 ±10kV contact ; ±15kV air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 4A (8/20μs)

## Package



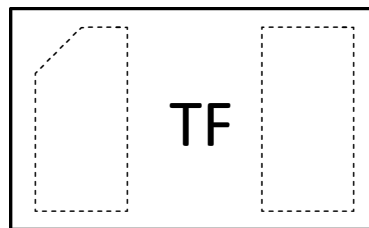
## Applications

- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops, and Servers
- Portable Instrumentation

## Mechanical Characteristics

- DFN1006 package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

## Marking



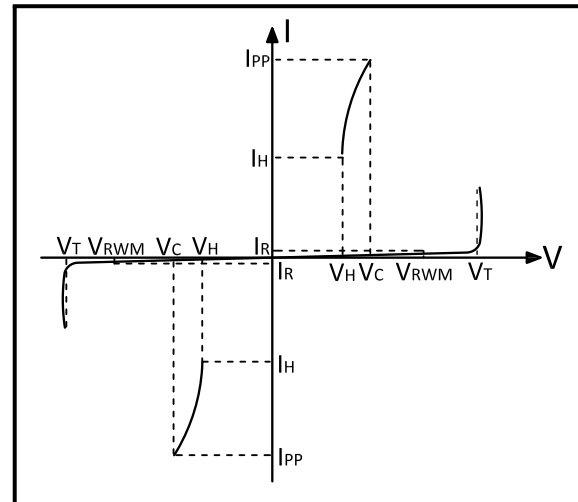
## Ordering information

Order code	Package	Base qty	Delivery mode
BNPESD18VF1BL	DFN1006	10k	Tape and reel



### Electrical Parameters (T<sub>A</sub> = 25°C unless otherwise noted)

Symbol	Parameter
I <sub>PP</sub>	Maximum Reverse Peak Pulse Current
V <sub>C</sub>	Clamping Voltage @ I <sub>PP</sub>
V <sub>RWM</sub>	Peak Reverse Working Voltage
I <sub>R</sub>	Reverse Leakage Current @ V <sub>RWM</sub>
V <sub>BR</sub>	Breakdown Voltage @ I <sub>T</sub>
I <sub>T</sub>	Test Current
V <sub>T</sub>	Trigger voltage
V <sub>H</sub>	Holding voltage
I <sub>H</sub>	Holding Current



Note: 8/20us pulse Waveform.

### Absolute Maximum Rating

Rating	Symler	Value	Units
Peak Pulse Power ( t <sub>p</sub> = 8/20μs )	P <sub>PP</sub>	32	Watts
Peak Pulse Current ( t <sub>p</sub> = 8/20μs )	I <sub>PP</sub>	4	A
ESD per IEC 61000-4-2 (Air)	V <sub>ESD</sub>	15	KV
ESD per IEC 61000-4-2 (Contact)		10	
Lead Soldering Temperature	T <sub>L</sub>	260(10seconds)	°C
Junction Temperature	T <sub>J</sub>	-55 to + 150	°C
Storage Temperature	T <sub>stg</sub>	-55 to + 150	°C

### Electrical Characteristics

Parameter	Symler	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V <sub>RWM</sub>	–	–	–	18	V
Holding Voltage	V <sub>H</sub>	I <sub>T</sub> =I <sub>H</sub>	–	3.0	–	V
Holding Current	I <sub>H</sub>	–	35	–	–	mA
Reverse Leakage Current	I <sub>R</sub>	V <sub>RWM</sub> =18V, T=25°C	–	–	500	nA
Clamping Voltage	V <sub>C</sub>	I <sub>PP</sub> =4A, t <sub>p</sub> = 8/20us	–	6.2	8	V
Trigger Voltage	V <sub>T</sub>	–	–	18.2	20	V
Junction Capacitance	C <sub>j</sub>	V <sub>R</sub> =0V, f=1MHZ	–	0.5	0.6	pF





# BNPESD18VF1BL

ESD Protection Diode

## Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

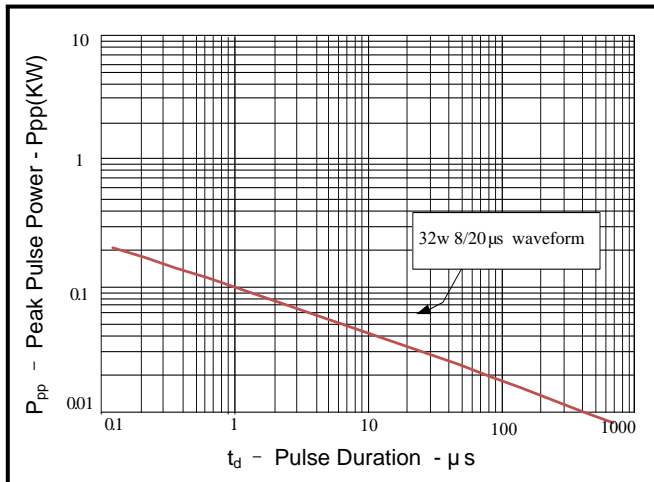


Figure 2: Power Derating Curve

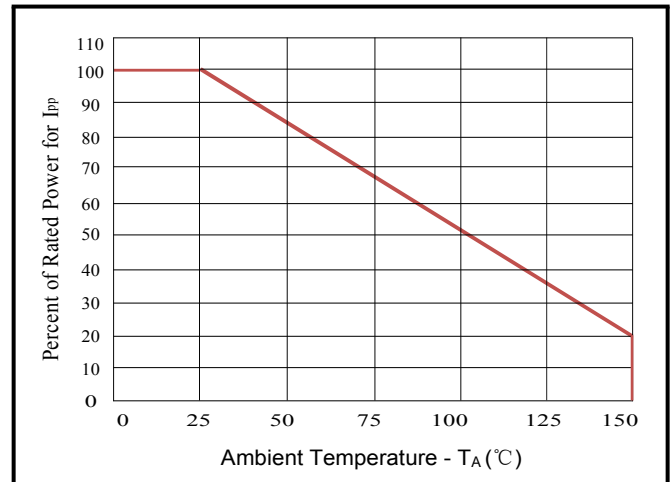


Figure 3: Pulse Waveform

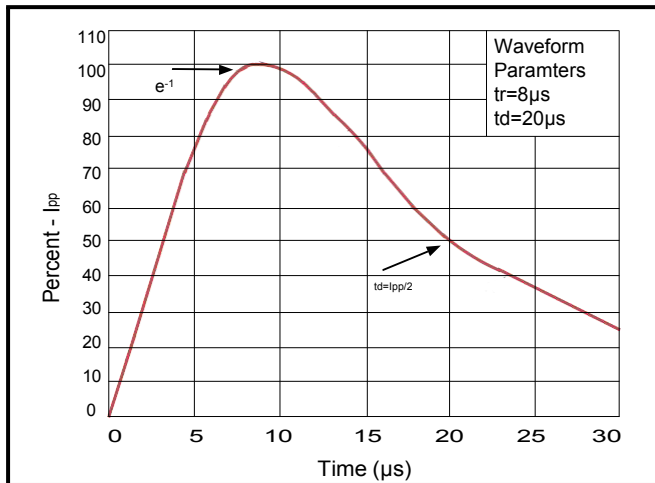
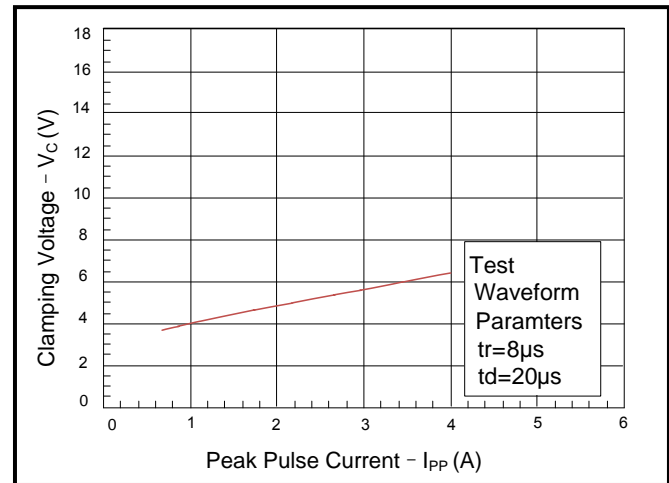


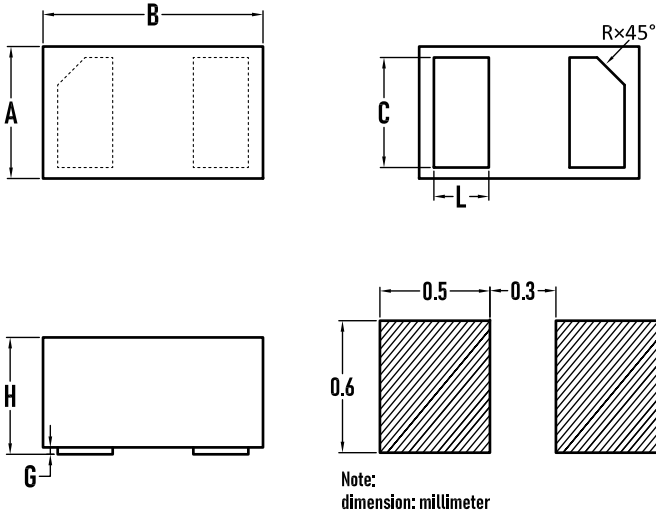
Figure 4: Clamping Voltage vs. Ipp



**BNPESD18VF1BL**

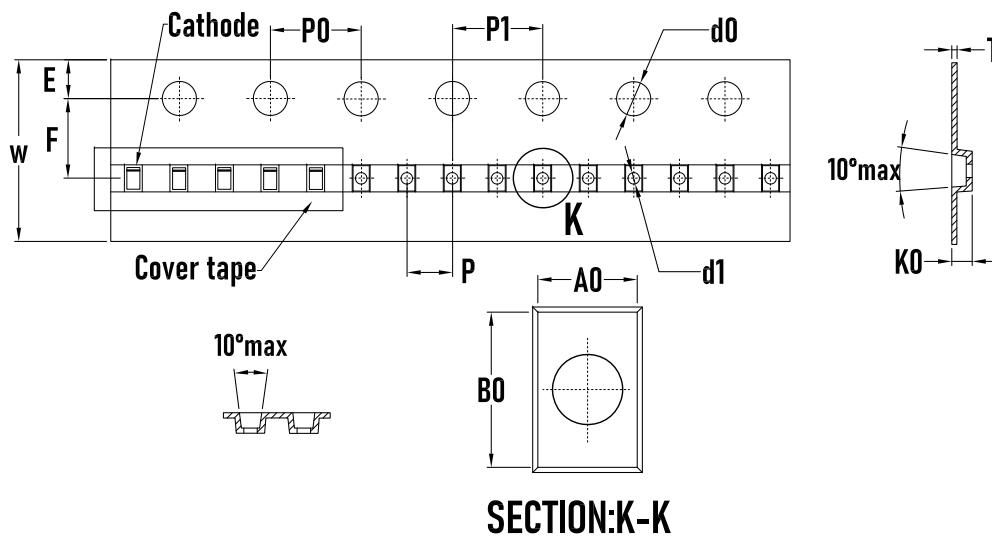
ESD Protection Diode

Outline Drawing – DFN1006



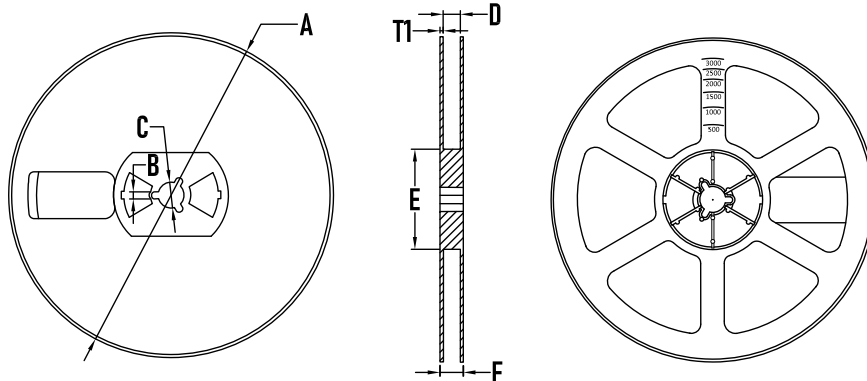
SYMBOL	MILLIMETER		
	MIN.	Typ.	MAX.
A	0.55	0.60	0.65
B	0.95	1.00	1.05
C	0.45	0.50	0.55
L	0.20	0.25	0.30
F	0.05REF		
G	0.00	0.02	0.05
H	0.45	0.50	0.55
R	0.07	0.12	0.17

Packaging Tape - DFN1006



SYMBOL	MILLIMETER
A0	0.71±0.05
B0	1.11±0.05
d0	1.5 <sup>+0.1</sup> <sub>-0</sub>
d1	0.50±0.05
E	1.75±0.10
F	3.50±0.05
K0	0.56±0.05
P	2.00±0.05
P0	4.00±0.10
P1	2.00±0.05
W	8.00 <sup>+0.03</sup> <sub>-0.01</sub>
T	0.2±0.015

Packaging Reel



SYMBOL	MILLIMETER
A	178±1
B	3.5±0.2
C	14.3±0.2
D	9.8 <sup>+2</sup> <sub>-1</sub>
E	54.5±0.5
F	12.4±0.2
T1	1.0±0.2
Quantity	10000PCS

**BORN SEMICONDUCTOR, INC. ALL  
RIGHT RESERVED**

