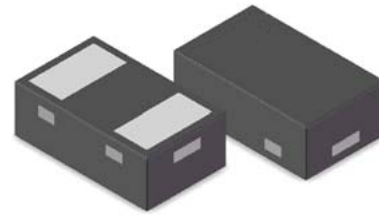


## Features

- Ultra small package: 1.0x0.6x0.5mm
- Ultra low capacitance: 10pF typical
- Protects one data or power line
- Working voltage: 3.3V
- Low clamping voltage
- 2-pin leadless package
- RoHS compliant



**DFN1006**

## IEC COMPATIBILITY (EN61000-4)

- IEC 61000-4-2 (EFT)  $\pm 30\text{kV}$  contact  $\pm 30\text{kV}$  air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 7A (8/20 $\mu\text{s}$ )

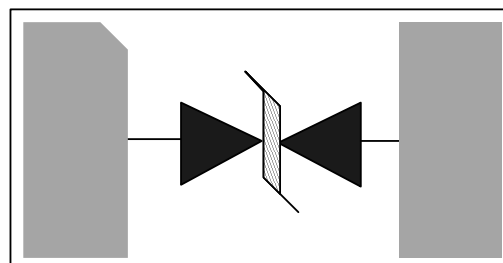
## Applications

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals
- Audio Players
- Keypads, Side Keys, LCD Displays

## Mechanical Characteristics

- Lead Finish: NiPdAu
- Case Material: "Green" Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020
- Terminal Connections: See Diagram Below

## Schematic & PIN Configuration



**DFN1006**

## Absolute Maximum Rating

Parameter	Symbol	Value	Units
Peak Pulse Power ( $t_p = 8/20\mu s$ waveform )	$P_{PP}$	100	W
Peak Pulse Current ( $t_p = 8/20\mu s$ waveform )	$I_{PP}$	7	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	$V_{ESD}$	$\pm 30$ $\pm 30$	kV
Operating Temperature Range	$T_J$	-55 to + 125	$^{\circ}C$
Storage Temperature Range	$T_{STG}$	-55 to + 150	$^{\circ}C$

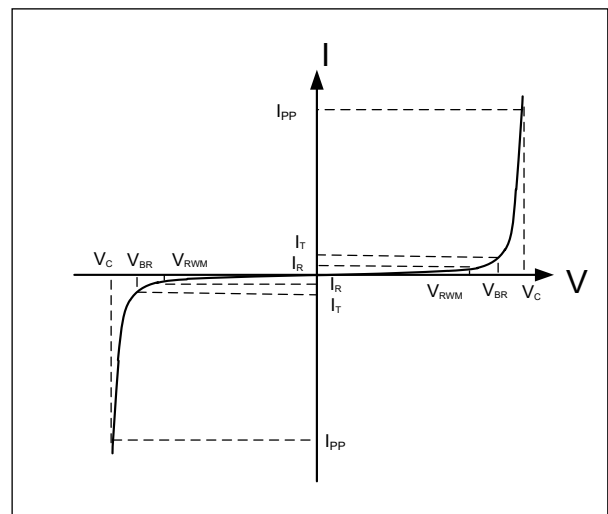
## Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Working Voltage	$V_{RWM}$				3.3	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T = 1mA$	3.7			V
Reverse Leakage Current	$I_R$	$V_{RWM} = 3.3V$			0.5	$\mu A$
Peak Pulse Current	$I_{PP}$	$I_{PP} = 1A$ (8 x 20 $\mu s$ pulse)			6	V
Clamping Voltage	$V_C$	$I_{PP} = 7A$ (8 x 20 $\mu s$ pulse)		9	11	V
Junction Capacitance	$C_J$	$V_R = 0V, f = 1MHz$		10		pF

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

Note: 8/20 $\mu s$  pulse waveform.



## Typical Characteristics

Figure 1: Peak Pulse Power Vs Pulse Time

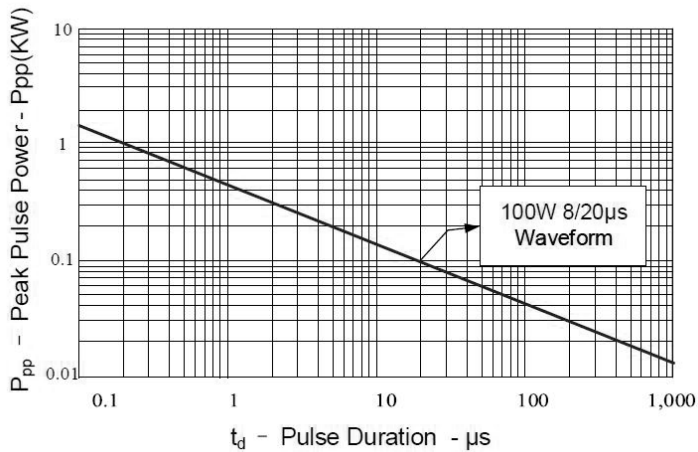


Figure 2: Power Derating Curve

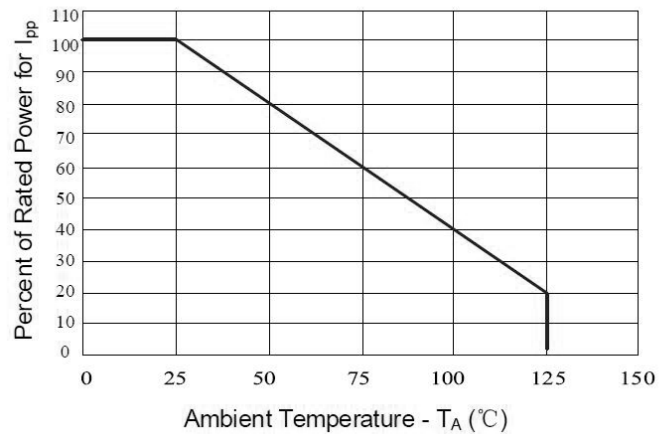


Figure 3: Clamping Voltage vs. Peak Pulse Current

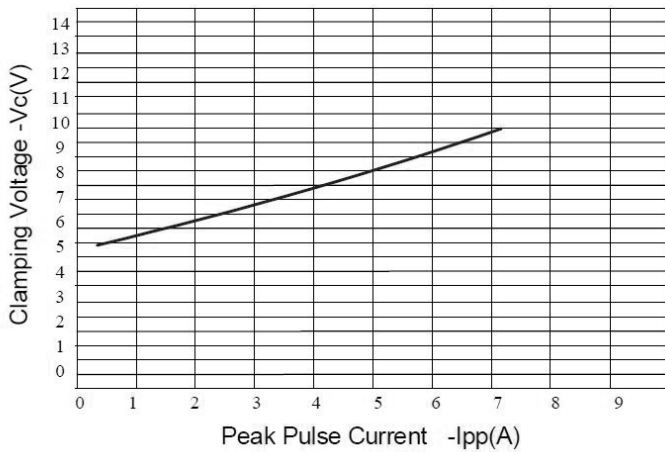


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

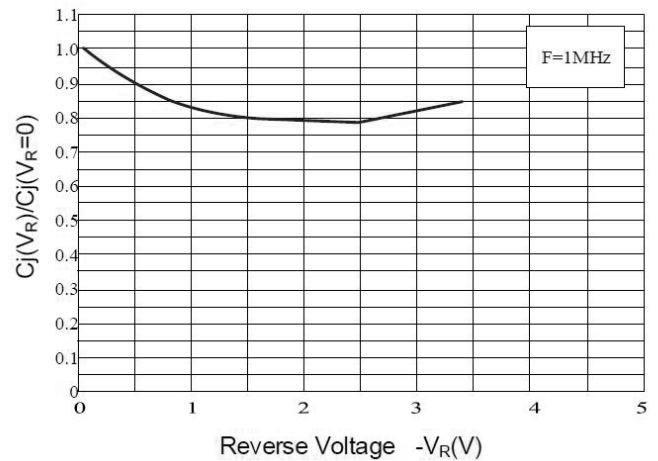


Figure 5: Pulse Waveform

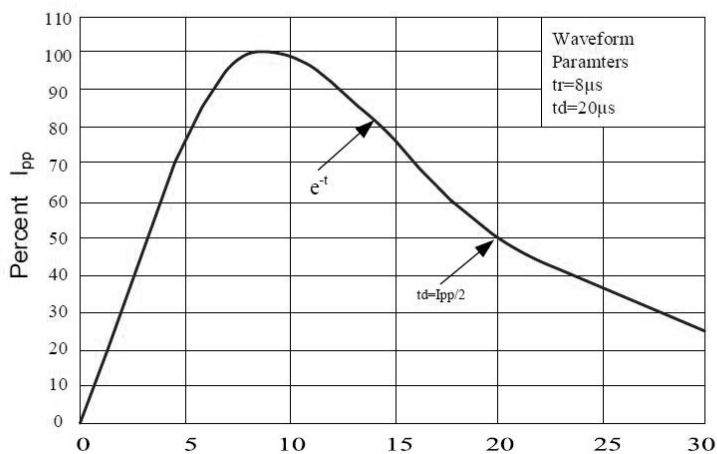
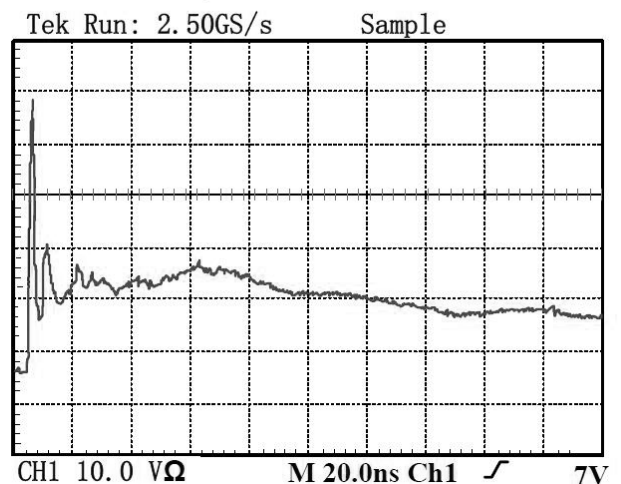
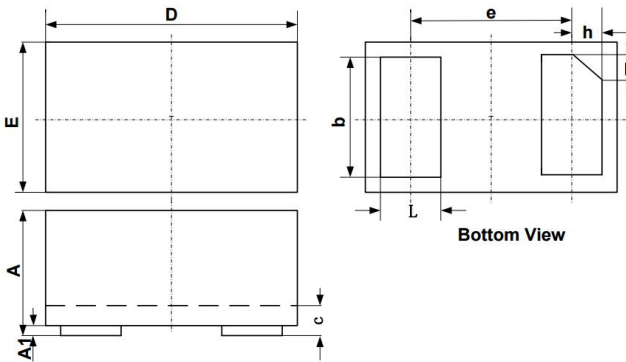


Figure 6: ESD Clamping (8kV Contact per IEC 61000-4-2)

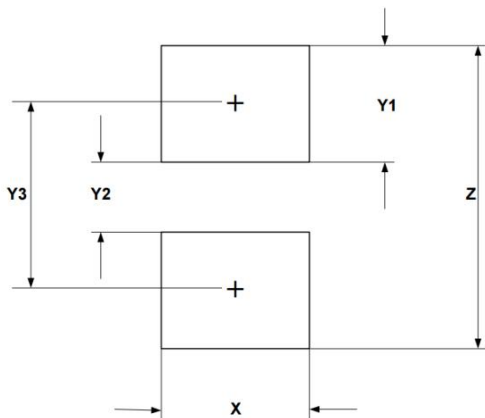


## Package Mechanical Data



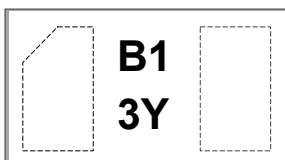
SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.45	0.50	0.55	0.018	0.020	0.022
A1	0.00	0.02	0.05	0.000	0.001	0.002
b	0.45	0.50	0.55	0.018	0.020	0.022
c	0.12	0.15	0.18	0.005	0.006	0.007
D	0.95	1.00	1.05	0.037	0.039	0.041
e	0.65 BSC			0.026 BSC		
E	0.55	0.60	0.65	0.022	0.024	0.026
L	0.20	0.25	0.30	0.008	0.010	0.012
h	0.07	0.12	0.17	0.003	0.005	0.007

## Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
X	0.600	0.024
Y1	0.500	0.020
Y2	0.300	0.012
Y3	0.800	0.032
Z	1.300	0.052

## Marking



## Ordering information

Order code	Package	Base qty	Delivery mode
PTN102L10S3B10	DFN1006	10k	Tape and reel