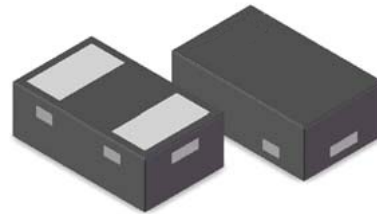


## Features

- Ultra small package: 1.0X0.6X0.5mm
- Protects one data or power line
- Low clamping voltage
- Working voltage: 7V
- 2-pin leadless package
- RoHS compliant



**DFN1006**

## IEC Compatibility (EN61000-4)

- IEC 61000-4-2 (ESD)  $\pm 30\text{kV}$  contact  $\pm 30\text{kV}$  air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 18A (8/20 $\mu\text{s}$ )

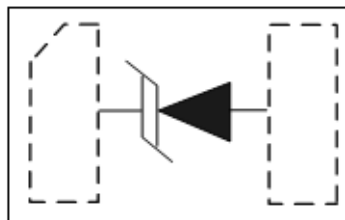
## Applications

- 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 Ratings

Parameter	Symbol	Value	Unit
Peak Pulse Power ( $t_p = 8/20\mu s$ waveform)	$P_{PP}$	600	W
Peak Pulse Current (8/20 $\mu s$ )	$I_{PP}$	40	A
ESD per IEC 61000-4-2 (Air)	$V_{ESD}$	$\pm 30$	kV
ESD per IEC 61000-4-2 (Contact)		$\pm 30$	
Operating Temperature Range	$T_J$	-55 to +125	$^{\circ}C$
Storage Temperature Range	$T_{STG}$	-55 to +150	$^{\circ}C$

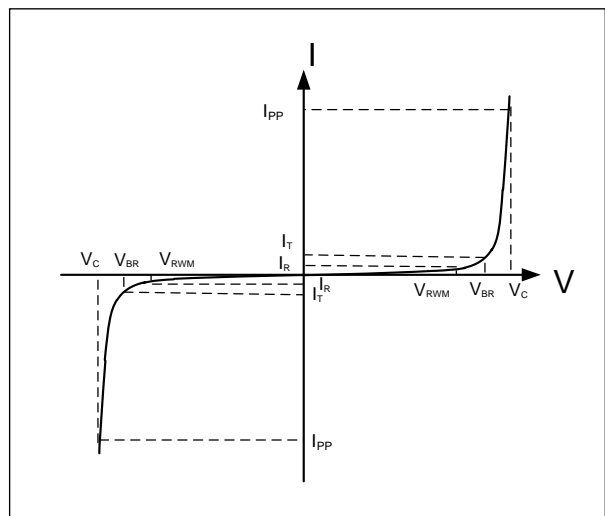
## Electrical Characteristics

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	$V_{RWM}$				7	V
Breakdown Voltage	$V_{BR}$	$I_T = 1mA$	7.5			V
Reverse Leakage Current	$I_R$	$V_{RWM} = 7V$			0.2	$\mu A$
Forward Voltage	$V_F$	$I_F = 10mA$			1.2	V
Clamping Voltage	$V_C$	$I_{PP} = 4A$ (8 x 20 $\mu s$ pulse)			8	V
Clamping Voltage	$V_C$	$I_{PP} = 40A$ (8 x 20 $\mu s$ pulse)			14	V
Junction Capacitance	$C_J$	$V_R = 0V, f = 1MHz$			220	pF

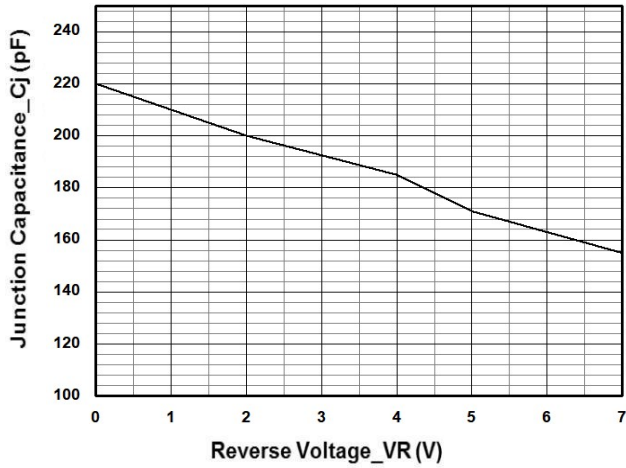
## Electrical Parameters (TA = 25 $^{\circ}C$ unless otherwise noted)

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

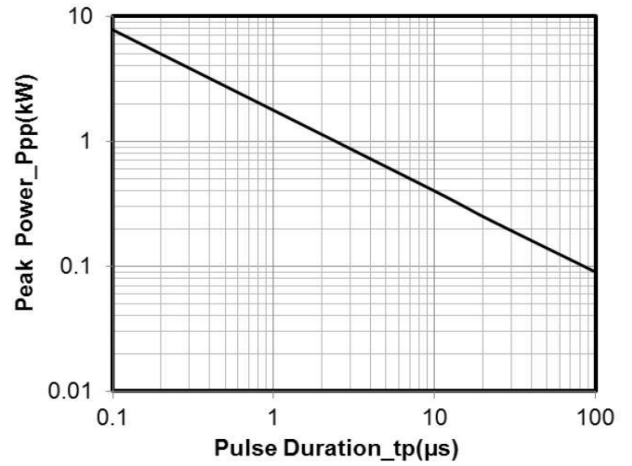
Note.: 8/20 $\mu s$  pulse waveform.



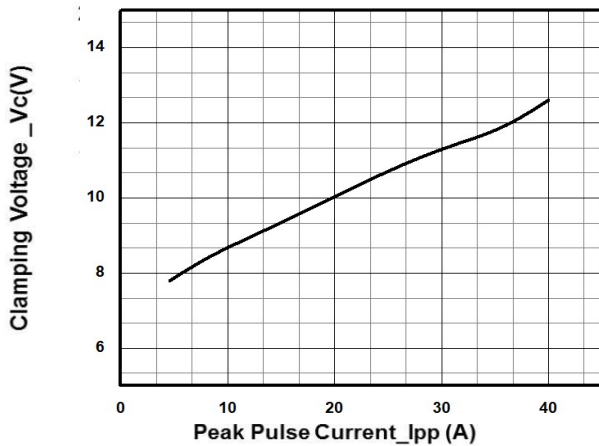
## Typical Performance Characteristics



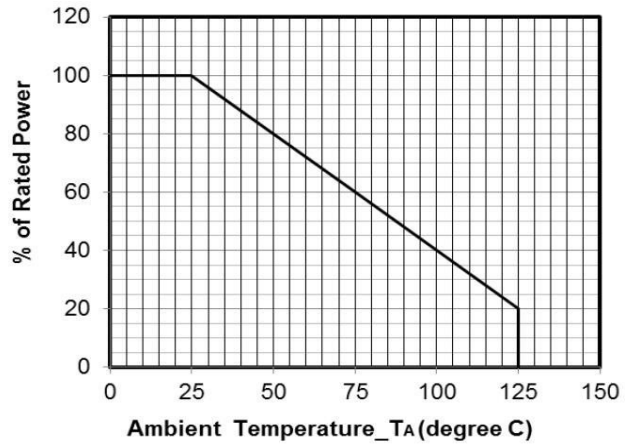
**Junction Capacitance vs. Reverse Voltage**



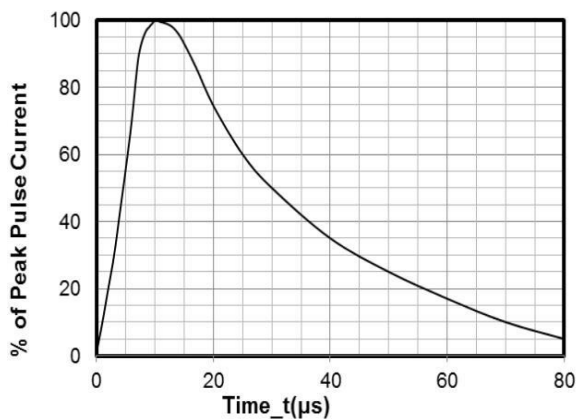
**Peak Pulse Power vs. Pulse Time**



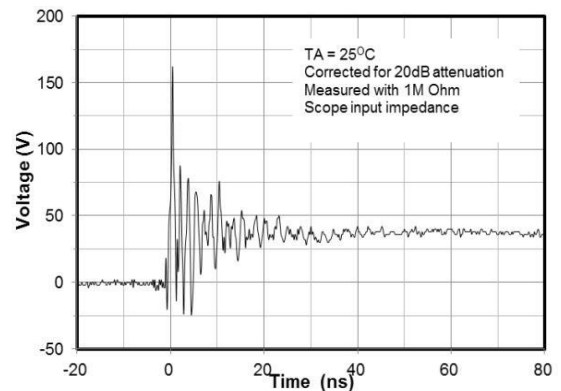
**Clamping Voltage vs. Peak Pulse Current**



**Power Derating Curve**



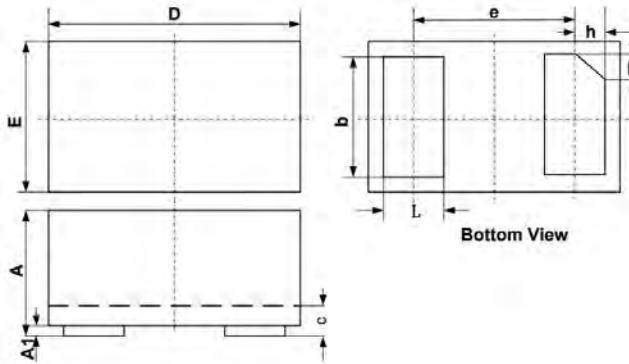
**8 X 20μs Pulse Waveform**



**ESD Clamping Voltage**

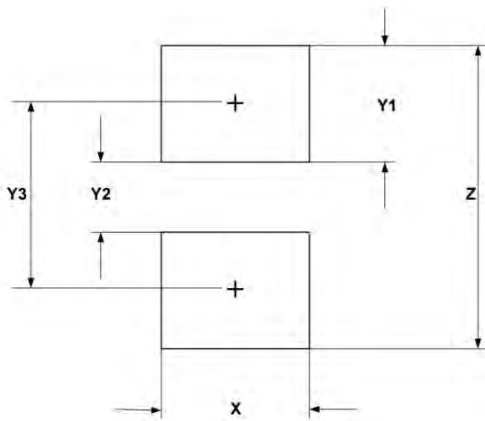
**8 kV Contact per IEC61000-4-2**

## Package Mechanical Data



SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.450	0.500	0.550	0.018	0.020	0.022
A1	0.000	0.020	0.050	0.000	0.001	0.002
b	0.450	0.500	0.550	0.018	0.020	0.022
c	0.120	0.150	0.180	0.005	0.006	0.007
D	0.950	1.000	1.050	0.037	0.039	0.041
e	0.650 BSC			0.026 BSC		
E	0.550	0.600	0.650	0.022	0.024	0.026
L	0.200	0.250	0.300	0.008	0.010	0.012
h	0.070	0.120	0.170	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

## Ordering Information

Order code	Package	Base qty	Delivery mode
PTN102H220S7C60	DFN1006	10k	Tape and reel