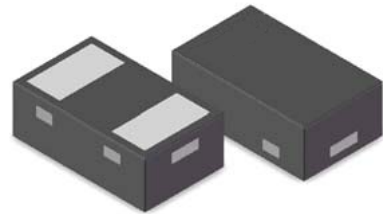


Features

- Ultra small package: 1.0X0.6X0.5mm
- Ultra low capacitance: 0.25pF typical
- Protects one data or power line
- Working voltage: 3.3V
- 2-pin leadless package
- RoHS compliant



DFN1006

IEC Compatibility (EN61000-4)

- IEC 61000-4-2 (ESD) $\pm 15\text{kV}$ contact $\pm 20\text{kV}$ air
- IEC 61000-4-5 (Lightning) 4A (8/20 μs)

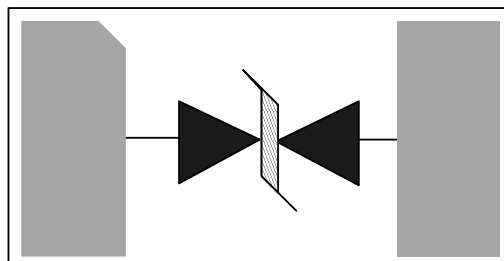
Applications

- Cellular Handsets and Accessories
- Display Ports
- MDDI Ports
- USB Ports
- Digital Visual Interface(DVI)
- PCI Express and Serial SATA Ports

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



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Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Peak Pulse Power ($t_p=8/20\mu s$ waveform)	P_{PP}	100	W
Peak Pulse Current (8/20 μs)	I_{PP}	4	A
ESD per IEC 61000-4-2 (Air)	V_{ESD}	± 20	kV
ESD per IEC 61000-4-2 (Contact)		± 15	
Operating Temperature Range	T_J	-55 to +125	$^{\circ}C$
Storage Temperature Range	T_{STG}	-55 to +150	$^{\circ}C$

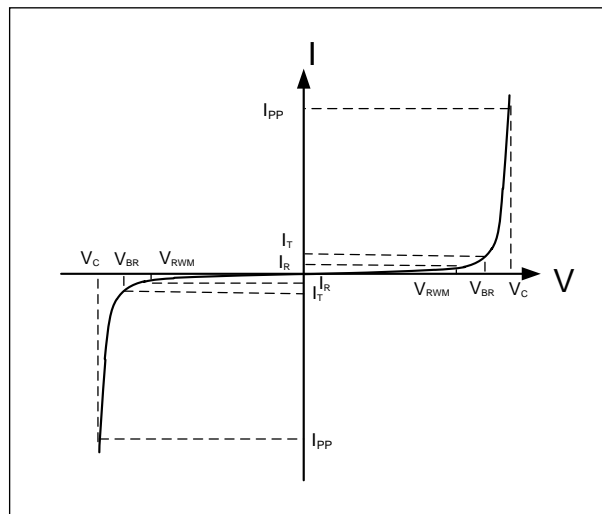
Electrical Characteristics

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				3.3	V
Breakdown Voltage	V_{BR}	$I_T = 1mA$	5			V
Reverse Leakage Current	I_R	$V_{RWM} = 3.3V$			0.2	μA
Clamping Voltage	V_C	$I_{PP} = 1A$ (8 x 20 μs pulse)			11	V
Clamping Voltage	V_C	$I_{PP} = 4A$ (8 x 20 μs pulse)			25	V
Junction Capacitance	C_J	$V_R = 0V, f = 1MHz$		0.25	0.3	pF

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

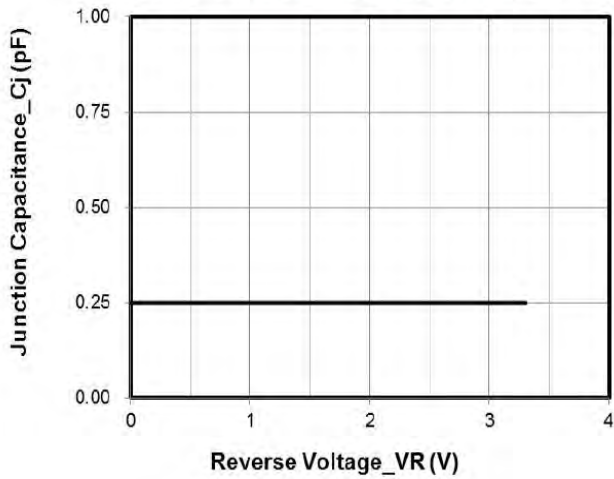
Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current

Note.: 8/20 μs pulse waveform.

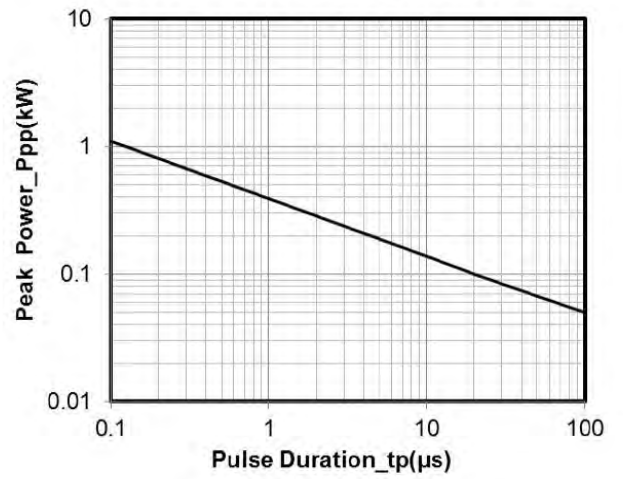


Typical Performance Characteristics

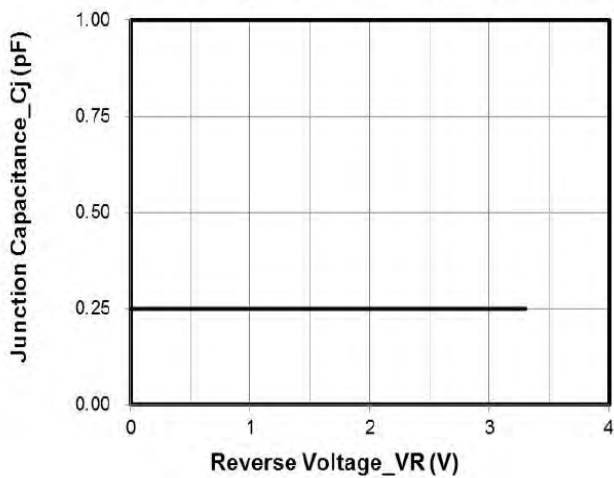
Junction Capacitance vs. Reverse Voltage



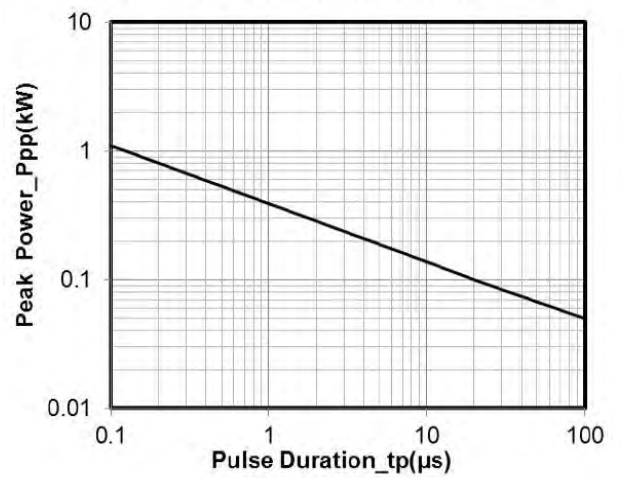
Peak Pulse Power vs. Pulse Time



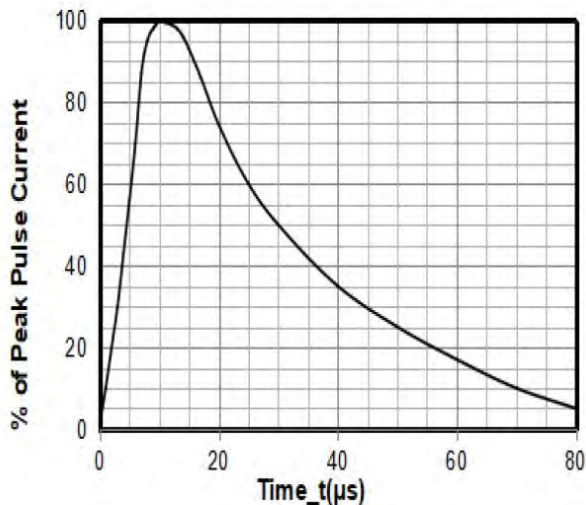
Junction Capacitance vs. Reverse Voltage



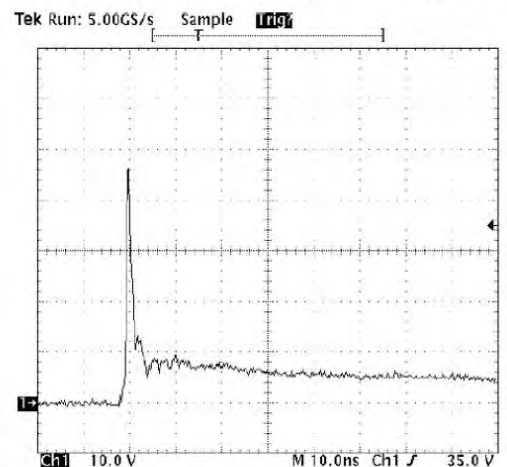
Peak Pulse Power vs. Pulse Time



8 X 20μs Pulse Waveform

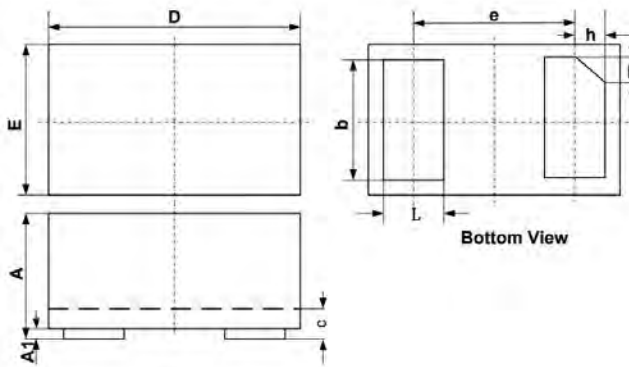


ESD Clamping Voltage
8 kV Contact per IEC61000-4-2



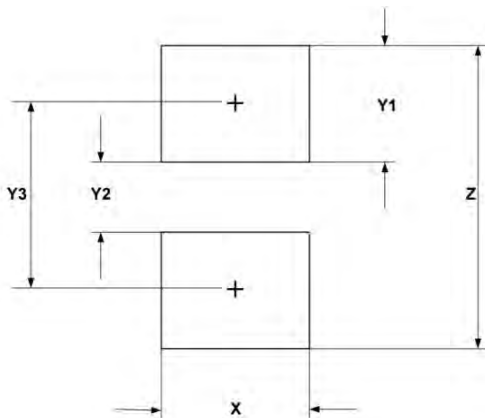
Note: Data is taken with a 10x attenuator

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
PTN102U03S3B10	DFN1006	10k	Tape and reel