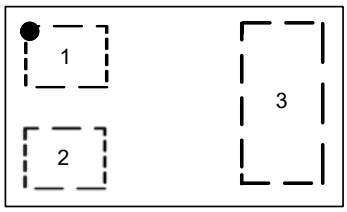
2-Line Ultra Low Capacitance TVS Diode

Features

- Ultra low leakage: nA level
- Operating voltage: 5V
- Low clamping voltage
- Complies with following standards:
  - – IEC 61000-4-2 (ESD) immunity test
    - Air discharge: ±30kV
    - Contact discharge: ±30kV
  - – IEC61000-4-4 (EFT) 40A (5/50ns)
  - – IEC61000-4-5 (Lightning) 10A (8/20 μs)
- RoHS Compliant

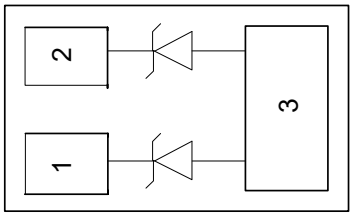
Dimensions DFN1006-3



Applications

- Cellular Handsets and Accessories
- Display Ports
- MDDI Ports
- USB 2.0 and 3.0 Ports
- Digital Visual Interface (DVI)
- PCI Express and Serial SATA Ports
- Notebook Computer

Pin Configuration



Mechanical Characteristics

- Package: DFN1006-3
- UL Flammability Classification Rating 94V-0
- Quantity Per Reel:10000pcs
- Reel Size:7 inch
- Device Marking: 32

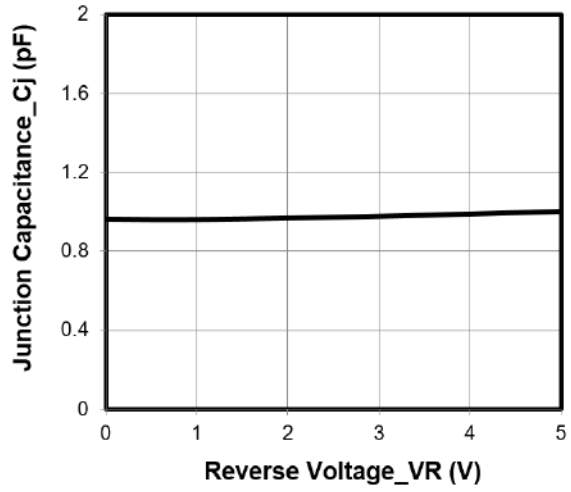
Absolute Maximum Ratings(Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppp	120	W
ESD per IEC 61000−4−2 (Air)	V_{ESD}	± 30	kV
ESD per IEC 61000−4−2 (Contact)		± 30	
Operating Temperature Range	T_J	-55 to +125	℃
Storage Temperature Range	T_{STJ}	-55 to +150	℃

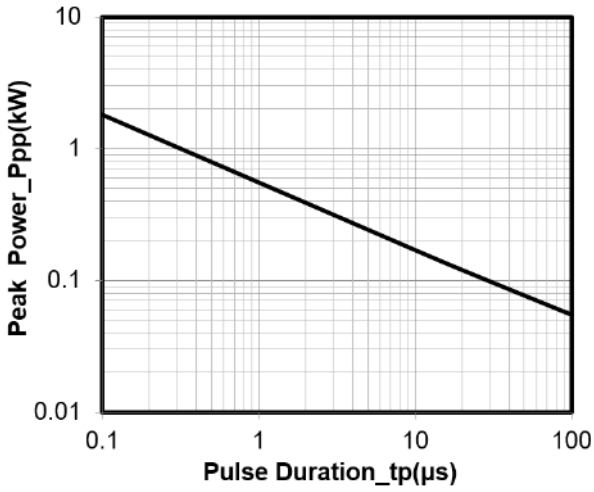
Electrical Characteristics(TA=25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}	Pin 1 or pin 2 to pin 3 and between pin 1 and pin 2			5	V
Breakdown Voltage	V_{BR}	I_T = 1mA, pin 1 or pin 2 to pin 3 and between pin 1 and pin 2	6			V
Reverse Leakage Current	I_R	V_{RWM} = 5V, Pin 1 or pin 2 to pin 3 and between pin 1 and pin 2			0.5	μA
Clamping Voltage	V_C	I_{PP} = 1A (8 x 20μs pulse), pin 1 or pin 2 to pin 3			8	V
Clamping Voltage	V_C	I_{PP} = 10A (8 x 20μs pulse), pin 1 or pin 2 to pin 3			12	V
Junction Capacitance	C_J	VR = 0V, f = 1MHz, between pin 1 and pin 2		0.5		pF
Junction Capacitance	C_J	VR = 0V, f = 1MHz, pin 1 or pin 2 to pin 3		1.0		pF

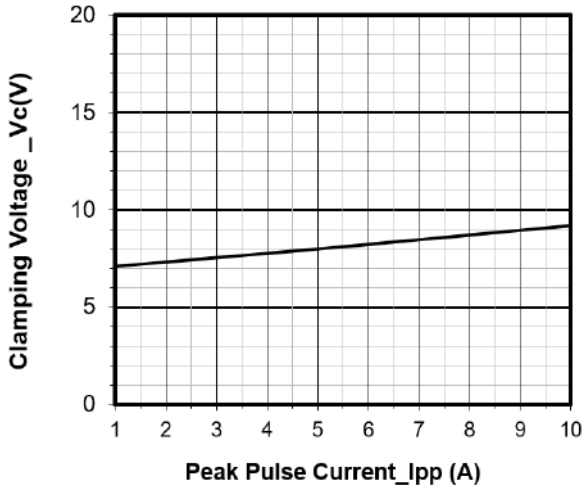
Typical Performance Characteristics(TA=25°C unless otherwise specified)



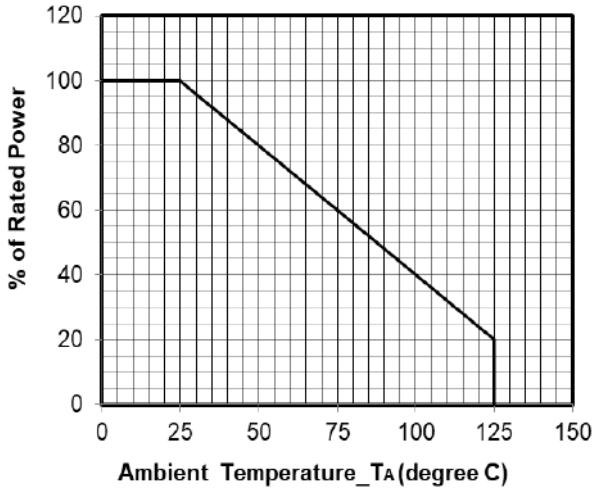
Junction Capacitance vs. Reverse Voltage



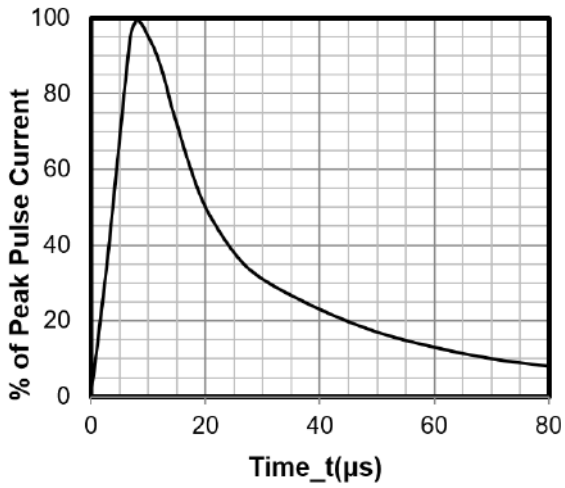
Peak Pulse Power vs. Pulse Time



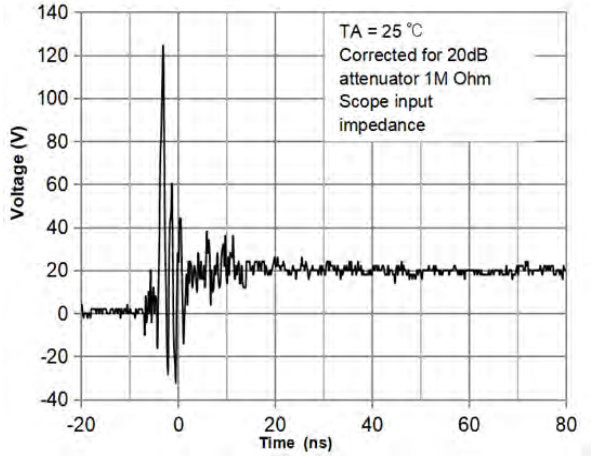
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve



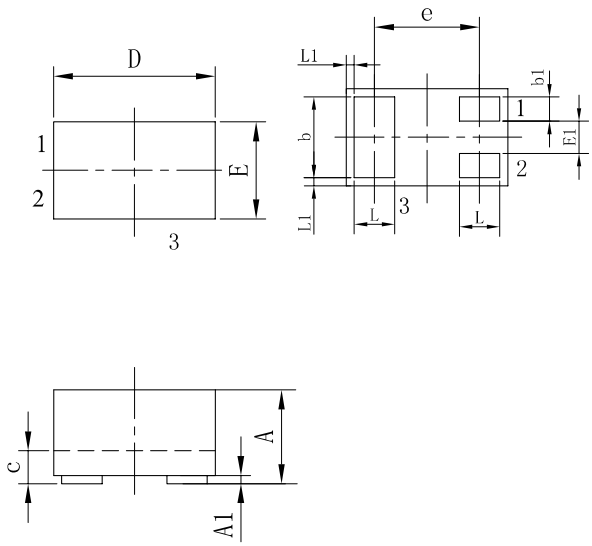
8 X 20μs Pulse Waveform



ESD Clamping Voltage

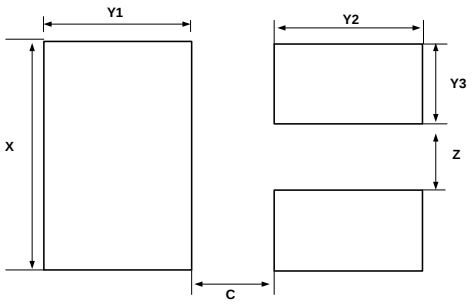
8 kV Contact per IEC61000−4−2

DFN1006-3 Package Outline Drawing



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
b1	0.10	0.15	0.20	0.004	0.006	0.008
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
E1	0.15	0.20	0.25	0.006	0.008	0.010
L	0.20	0.25	0.30	0.008	0.010	0.012
L1	0.05 REF			0.0002 REF		

Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
C	0.25	0.010
X	0.65	0.024
Y1	0.50	0.020
Y2	0.50	0.020
Y3	0.25	0.010
Z	0.20	0.008