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uClamp0511T

1-Line Bi-directional Low Capacitance TVS Diode

Features

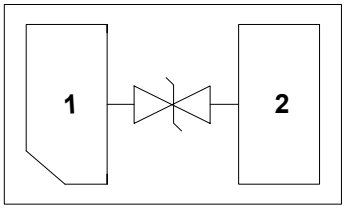
- Ultra small package: 1.0x0.6x0.5mm
- Protects one data or power line
- Very low capacitance: 2.5pF typical
- Ultra low leakage: nA level
- Operating voltage: 5V
- Low clamping voltage
- 2-pin leadless package
- Complies with following standards:
  – IEC 61000-4-2 (ESD) immunity test
    Air discharge: ±20kV
    Contact discharge: ±20kV
  –EC61000-4-5 (Lightning) 3.5A (8/20μs)
- RoHS compliant



DFN1006-2

Mechanical Characteristics

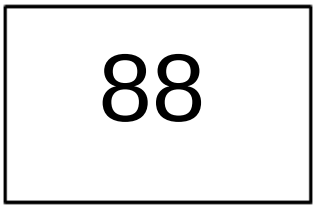
- Package: DFN1006-2 (1.0×0.6×0.5mm)
- Case Material: “Green” Molding Compound.
- Terminal Connections: See Diagram Below
- Marking Information: See Below



Circuit diagram

Applications

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals
- Audio Players
- Keypads, Side Keys, USB 2.0, LCD Displays



88= Device code

Marking (Top View)

Ordering Information

Part Number	Packaging	Reel Size
uClamp0511T	10000/Tape & Reel	7 inch

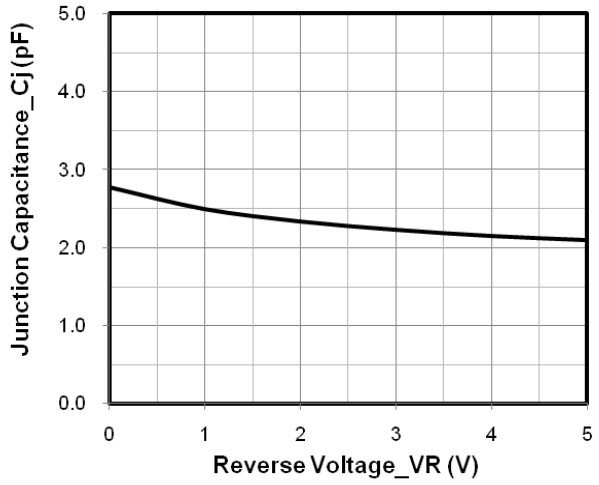
Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	V_{ESD}	±20 ±20	kV
Peak Pulse Power (8/20μs)	P_{PK}	35	W
Peak Pulse Current	I_{PP}	3.5	A
Operating Temperature Range	T_J	−55 to +125	°C
Storage Temperature Range	Tstg	−55 to +150	°C

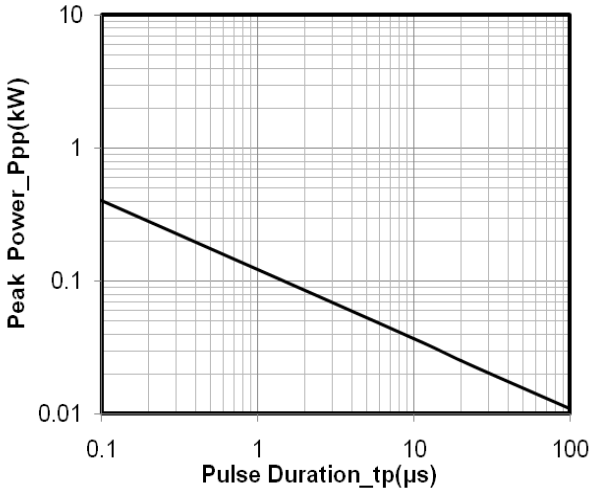
Electrical Characteristics (T_A=25°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			5	V	Pin 1 to Pin 2 or Pin 2 to Pin 1
Breakdown Voltage	V_{BR}	5.6			V	I_T = 1mA, Pin 1 to Pin 2 or Pin 1 to Pin 2
Reverse Leakage Current	I_R			0.1	μA	V_{RWM} = 5V, Pin 1 to Pin 2 or Pin 1 to Pin 2
Clamping Voltage	V_C		7.5	9.0	V	I_{PP} = 1A (8 x 20μs pulse), Pin 1 to Pin 2 or Pin 1 to Pin 2
Clamping Voltage	V_C		10.5	12.0	V	I_{PP} = 3.5A (8 x 20μs pulse), Pin 1 to Pin 2 or Pin 1 to Pin 2
Junction Capacitance	C_J		2.5		pF	VR = 0V, f = 1MHz

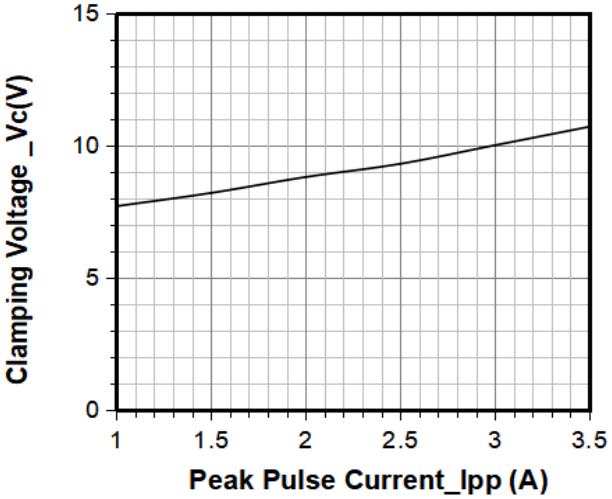
Typical Performance Characteristics (TA=25°C unless otherwise Specified)



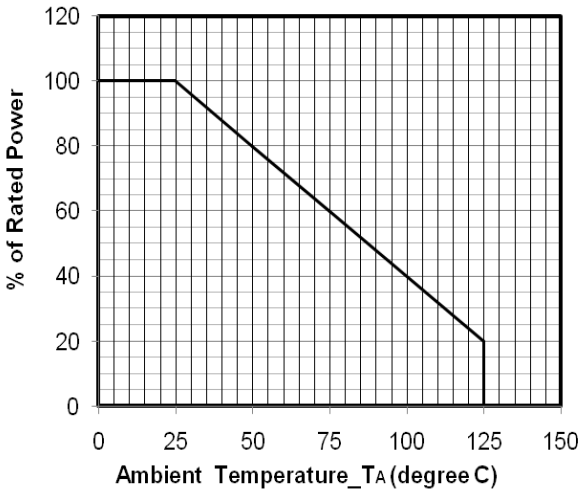
Junction Capacitance vs. Reverse Voltage



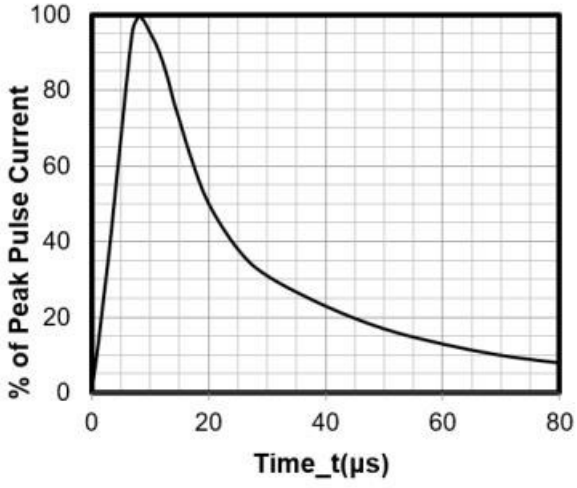
Peak Pulse Power vs. Pulse Time



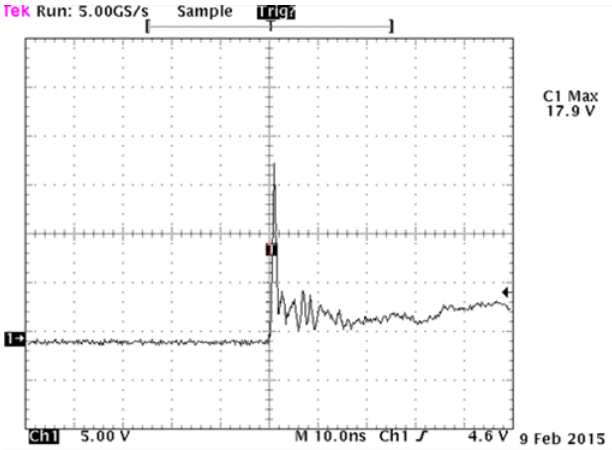
Clamping Voltage vs. Peak Pulse Current (tp = 8/20us)



Power Derating Curve



8 X 20μs Pulse Waveform

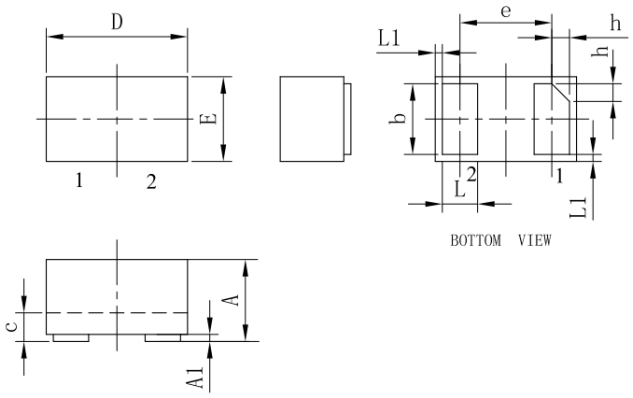


Note：Data is taken with a 10x attenuator

ESD Clamping Voltage

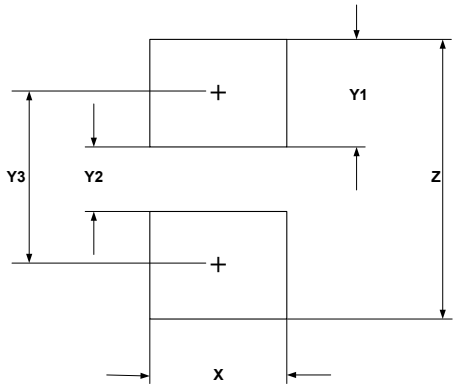
+8 kV Contact per IEC61000−4−2

DFN1006-2 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
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
L1	0.05REF			0.002REF		
h	0.07	0.12	0.17	0.003	0.005	0.007

Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
X	0.60	0.024
Y1	0.50	0.020
Y2	0.30	0.012
Y3	0.80	0.032
Z	1.30	0.052