

1-Line Bi-directional TVS Diode

Features

- ◇ 100W (8/20 μ s) Peak Pulse Power
- ◇ Ultra-Low Capacitance ESD Protection ◇

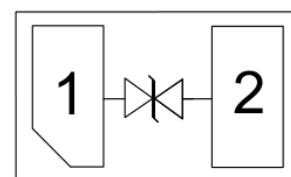
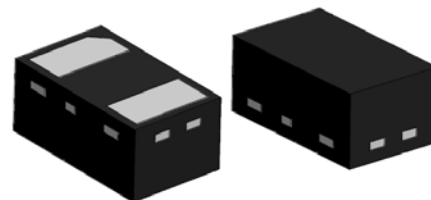
DFN1006-2 Package

- ◇ RoHS Compliant
- ◇ Matte Tin Lead finish (Pb-Free)
- ◇ Protect One High Speed Data Line
- ◇ Meet IEC61000-4-2 Level 4:

Contact Discharge > 8 kV

Air Discharge > 15 kV

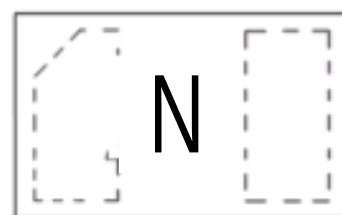
Circuit Diagram



Applications

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

Package Outline



N = Device Code

Ordering information

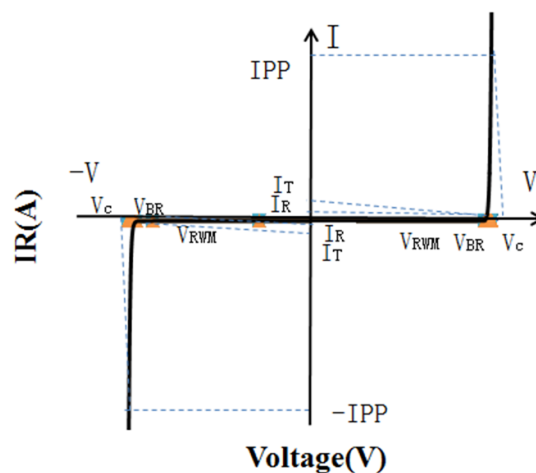
Device	Package	Reel Size	Qty / Reel
RCLAMP0521P	DFN1006-2	7 inch	3000

Maximum Ratings (Ta = 25°C)

Symbol	Parameter	Value	Unit
PPK	Peak Pulse Power	100	W
IPP	Peak Pulse Current	4	A
VESD (Contact)	Contact ESD Voltage per IEC61000-4-2	8	kV
VESD (Air)	Air ESD Voltage per IEC61000-4-2	15	kV
TJ	Junction Temperature	-55 to +125	°C
TSTG	Storage Temperature	-55 to +150	°C

Portion Electronics Parameter

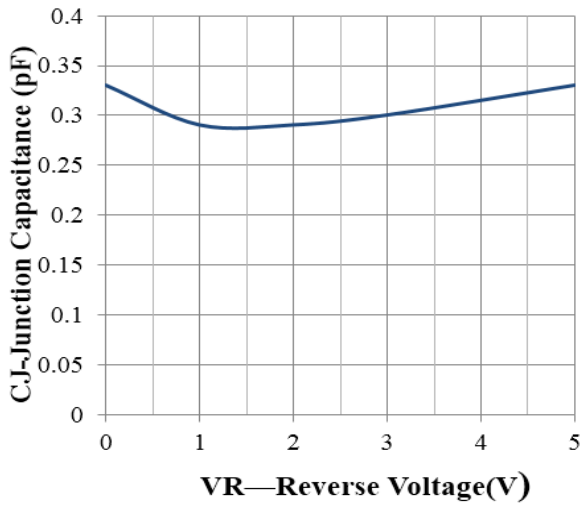
Symbol	Parameter
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_C



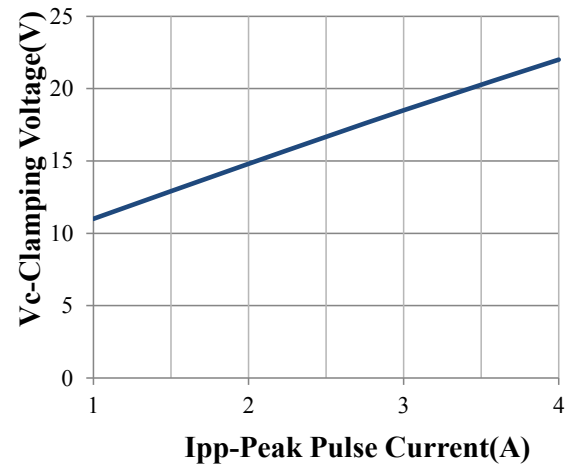
Electrical Characteristics ($T_a = 25^\circ\text{C}$)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
VRWM	Reverse Working Peak Voltage				5	V
VBR	Reverse Breakdown Voltage	$I_T = 1\text{mA}$	6		11	V
IR	Reverse Leakage Current	$VRWM = 5\text{V}$			1	μA
VC	Clamping Voltage	$I_{PP} = 1\text{A} (8/20\mu\text{s})$			15	V
VC	Clamping Voltage	$I_{PP} = 4\text{A} (8/20\mu\text{s})$			25	V
CJ	Capacitance	$VR = 0\text{V}, f = 1\text{MHz}$		0.3	0.5	pF

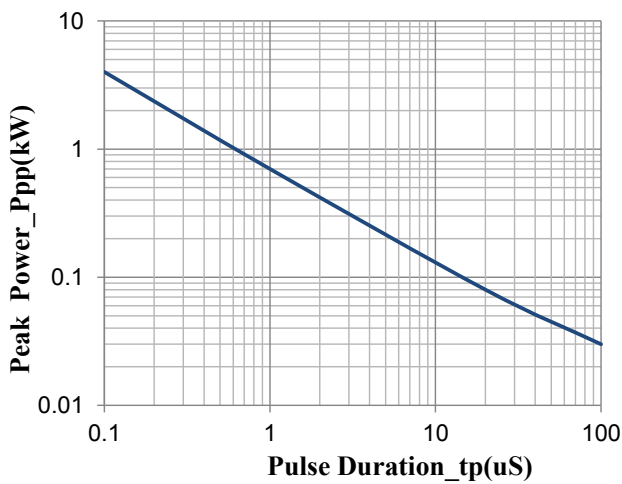
Typical Performance Curves



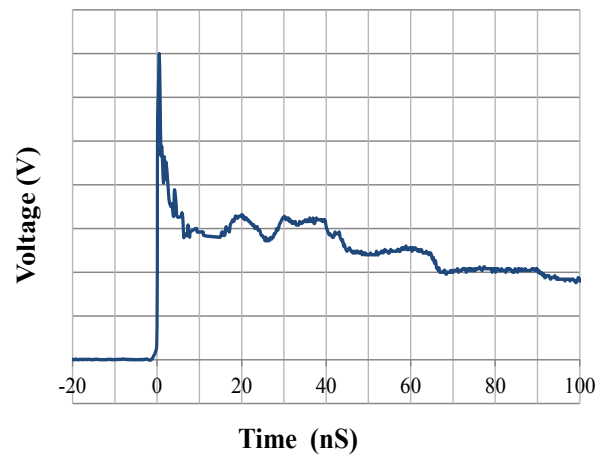
Junction Capacitance vs. Reverse Voltage



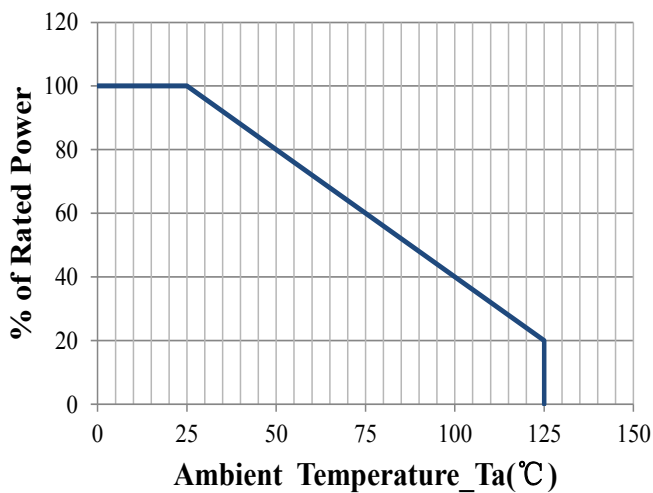
Clamping Voltage vs. Peak Pulse Current



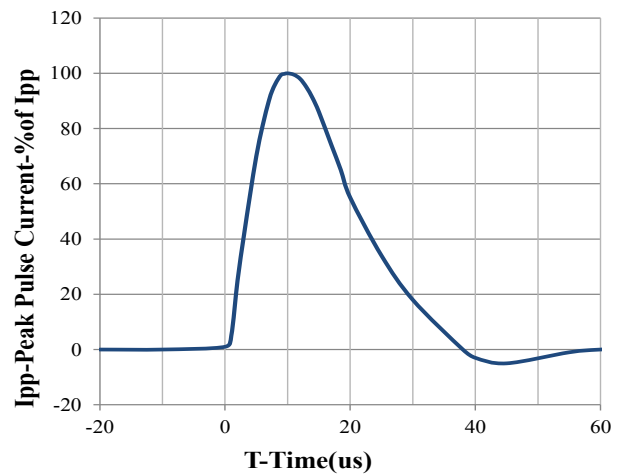
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform

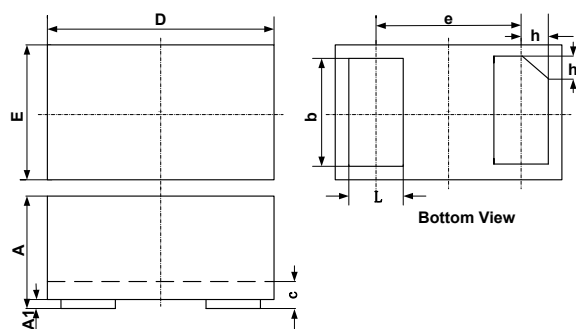


Power Derating Curve



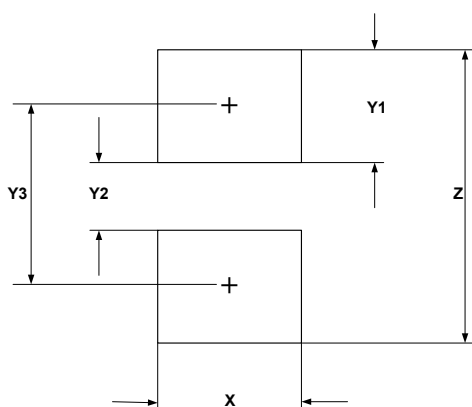
8 X 20us Pulse Waveform

DFN1006-2(0402)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
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