



RCLAMP0521P-N ESD Protection Diodes

Features

- Bi-directional ESD protection of one line
- 70Watts peak pulse power ($t_p = 8/20\mu s$)
- Working voltage: 5V
- Junction Capacitance: 0.3pF(Typ)
- IEC 61000-4-2 $\pm 15kV$ contact $\pm 20kV$ air
- IEC 61000-4-5 (Lightning) 3.8A ($8/20\mu s$)

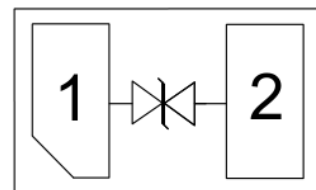
Applications

- Smart phones
- Display Ports
- MDDI Ports
- USB Ports
- Digital Video Interface (DVI)
- PCI Express and Serial SATA Ports

Mechanical Data

- Package:DFN1006-2
- Molding compound flammability rating: UL 94V-0
- RoHS/WEEE Compliant

Schematic & PIN Configuration



Ordering Information

Part Number	Package	Marking	Packing	Reel Size
RCLAMP0521P-N	DFN1006-2		10k Tape & Reel	7 inches



Absolute Maximum Rating ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

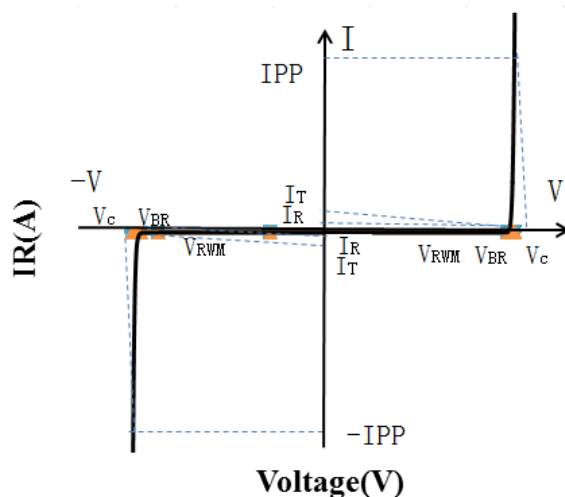
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	Ppk	70	W
Peak Pulse Current (8/20 μs)	I _{PP}	3.8	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4(Contact)	V _{ESD}	± 20 ± 15	kV
Operating Temperature Range	T _J	-55 to +125	$^{\circ}\text{C}$
Storage Temperature Range	T _{stg}	-55 to +150	$^{\circ}\text{C}$

Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V _{RWM}				5.0	V
Breakdown Voltage	V _{BR}	I _T = 1mA	6.0	7.5	8.5	V
Reverse Leakage Current	I _R	V _{RWM} = 5.0V			0.2	μA
Clamping Voltage	V _C	I _{PP} = 1A (8 x 20 μs pulse)		10	12	V
Clamping Voltage	V _C	I _{PP} = 4A (8 x 20 μs pulse)		17	20	V
Junction Capacitance	C _J	V _R = 0V, f = 1MHz		0.3	0.45	pF

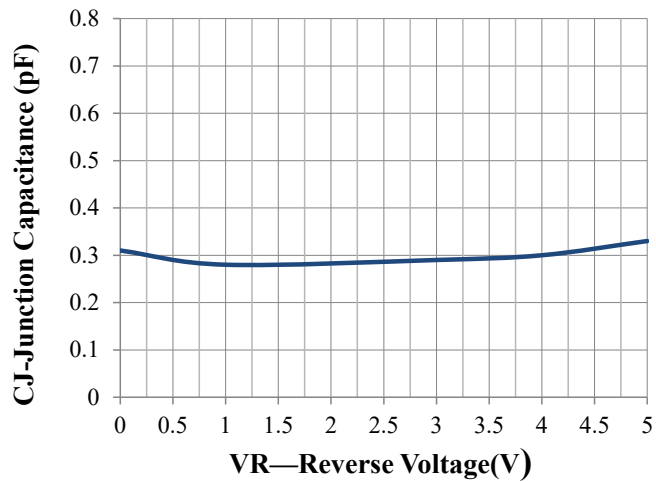
Electrical Parameters ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Parameter
I _T	Test Current
I _{PP}	Maximum Reverse Peak Pulse Current
V _C	Clamping Voltage @I _C

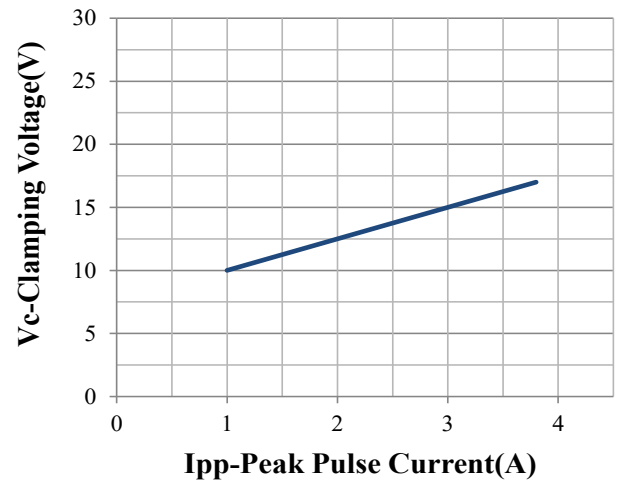




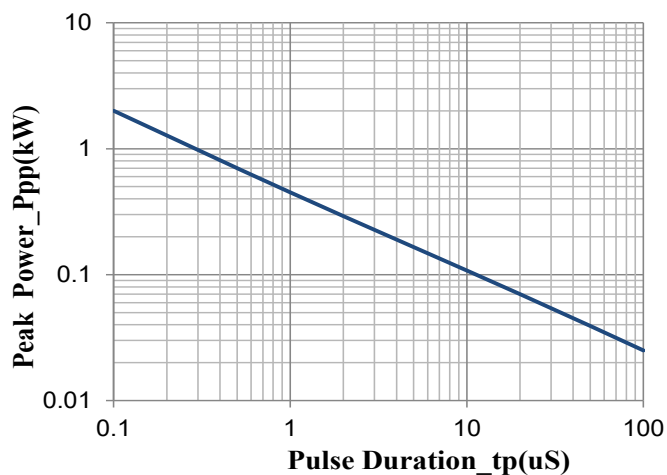
Typical Performance Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)



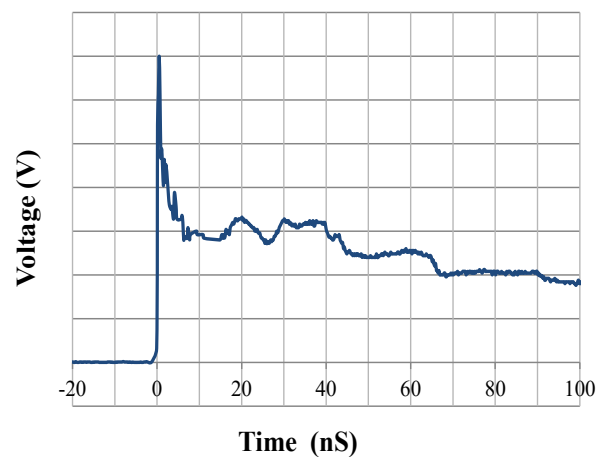
Junction Capacitance vs. Reverse Voltage



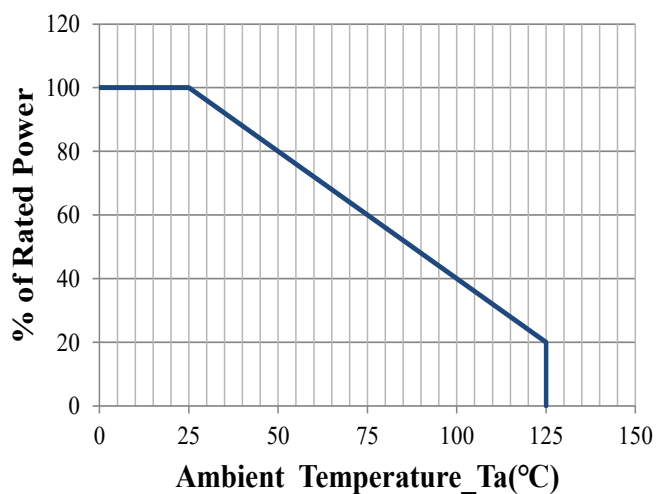
Clamping Voltage vs. Peak Pulse Current



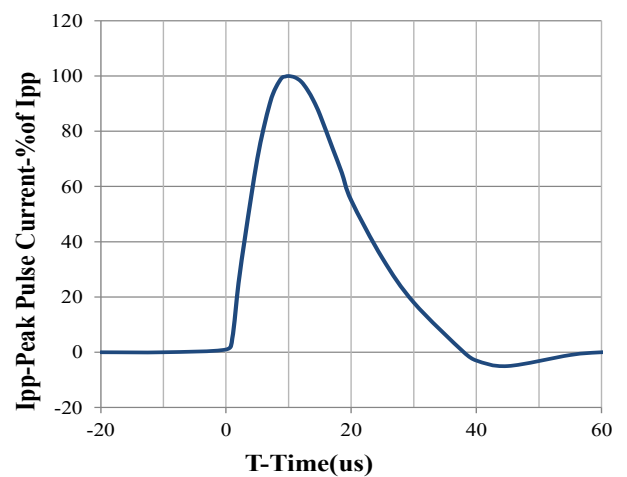
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform



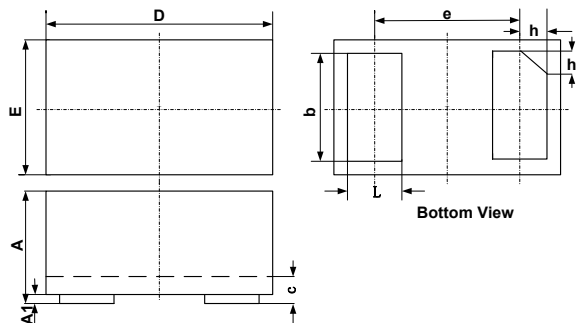
Power Derating Curve



8 X 20us Pulse Waveform

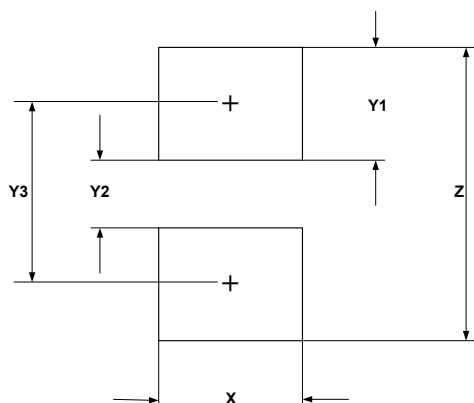


Outline Drawing – DFN1006-2



Sym	Dimensions					
	Millimeters			Inches		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.40	0.42	0.45	0.016	0.018	0.020
A1	0.00	0.02	0.055	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	0.99	1.02	1.05	0.039	0.040	0.041
e	0.65 BSC			0.026 BSC		
E	0.59	0.62	0.65	0.023	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