

Description

The DC3301P4 is a 3.3V TVS array, utilizing leading monolithic silicon technology to provide fast response time and low ESD clamping voltage, making this device an ideal solution for protecting voltage sensitive high-speed data lines. The DC3301P4 complies with the IEC 61000-4-2 (ESD) standard with $\pm 30\text{kV}$ air and $\pm 30\text{kV}$ contact discharge. It is assembled into a 6-pin lead-free DC3301P4 package. The low clamping voltage array make it ideal for use in portable electronics such as cell phones, PDAs, and digital cameras.

Mechanical Characteristics

- ◆ Package: DFN6L 1.45*1.0
- ◆ Lead Finish: Matte Tin
- ◆ Case Material: "Green" Molding Compound
- ◆ Moisture Sensitivity: Level 3 per J-STD-020
- ◆ Terminal Connections: See Diagram Below
- ◆ Marking Information: See Below

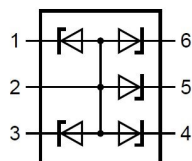
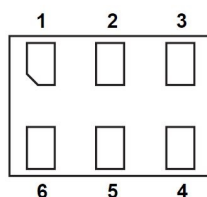
Features

- ◆ Low leakage current
- ◆ Operating voltage: 3.3V
- ◆ Low clamping voltage
- ◆ JEDEC DFN6L 1.45*1.0 package
- ◆ Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 30\text{kV}$
 - Contact discharge: $\pm 30\text{kV}$
 - IEC61000-4-5 (Lightning) : 15A(8/20 μs)
- ◆ ROHS Compliant

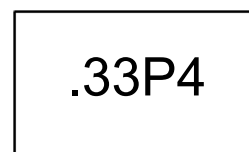
Applications

- ◆ Peripherals
- ◆ Industrial Equipment
- ◆ Notebook Computers
- ◆ Portable Instrumentation
- ◆ Microprocessor Based Equipment
- ◆ Cell Phone Handsets and Accessories
- ◆ Personal Digital Assistants (PDAs) and Pagers

Dimensions and Pin Configuration



Marking Information



Circuit and Pin Schematic

Ordering Information

Part Number	Marking	Packaging	Reel Size
DC3301P4	33P4	3000/Tape & Reel	7 inch

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

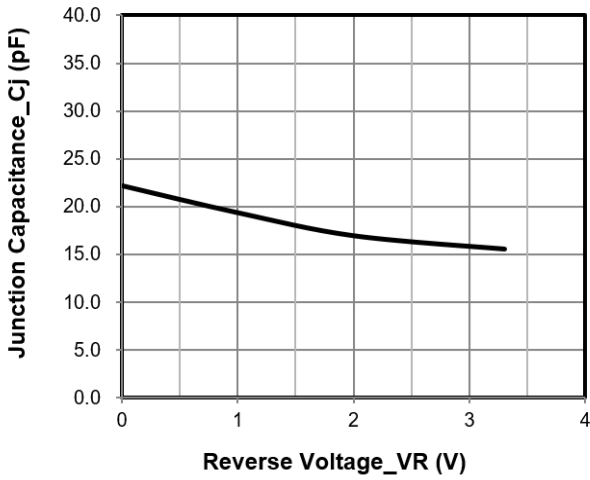
Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	Ppk	150	W
Peak Pulse Current (8/20 μs)	Ipp	15	A
ESD per IEC 61000-4-2 (Air)	VESD	± 30	kV
ESD per IEC 61000-4-2 (Contact)		± 30	
Operating Temperature Range	TJ	-55 to +125	$^{\circ}\text{C}$
Storage Temperature Range	Tstg	-55 to +150	$^{\circ}\text{C}$

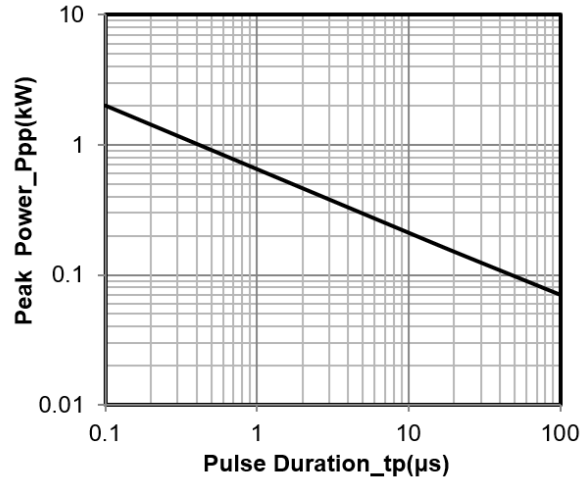
Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM			3.3	V	
Breakdown Voltage	VBR	3.5			V	$I_T = 1\text{mA}$
Reverse Leakage Current	I_R			0.2	μA	$VRWM = 3.3\text{V}$
Clamping Voltage	VC			7	V	$I_{PP} = 1\text{A}$ (8 x 20 μs pulse)
Clamping Voltage	VC			10	V	$I_{PP} = 15\text{A}$ (8 x 20 μs pulse)
Junction Capacitance	CJ		20		pF	$VR = 0\text{V}$, $f = 1\text{MHz}$

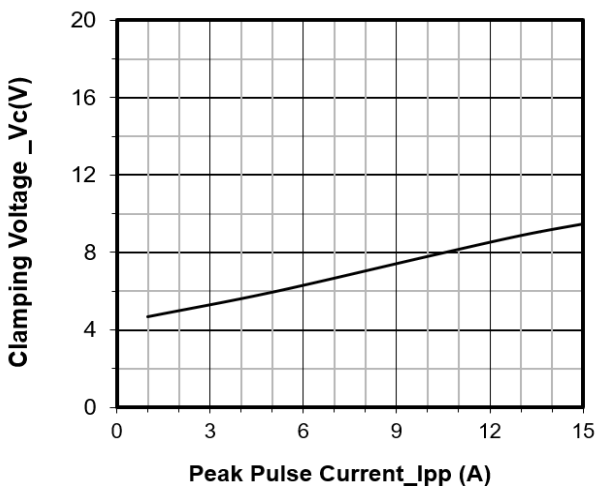
Typical Performance Characteristics (TA=25°C unless otherwise Specified)



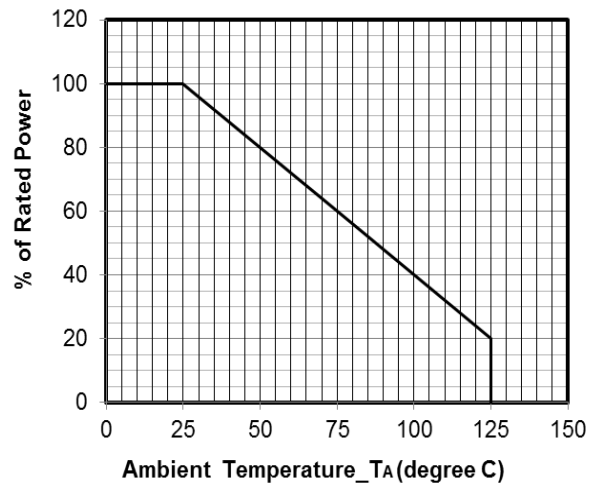
Junction Capacitance vs. Reverse Voltage



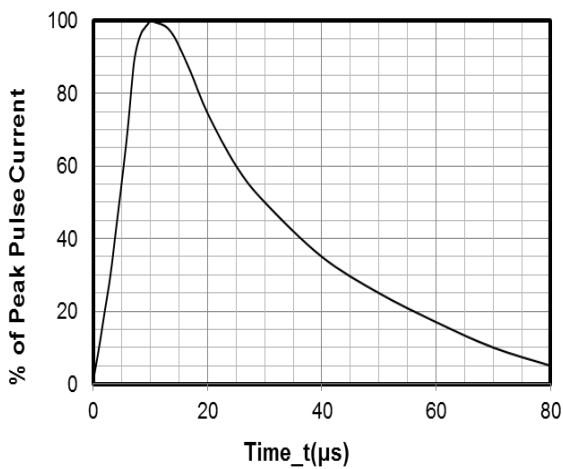
Peak Pulse Power vs. Pulse Time



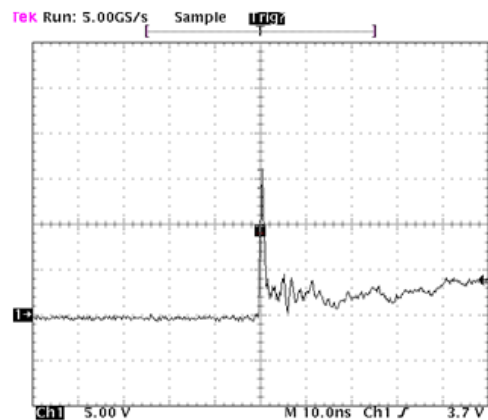
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve



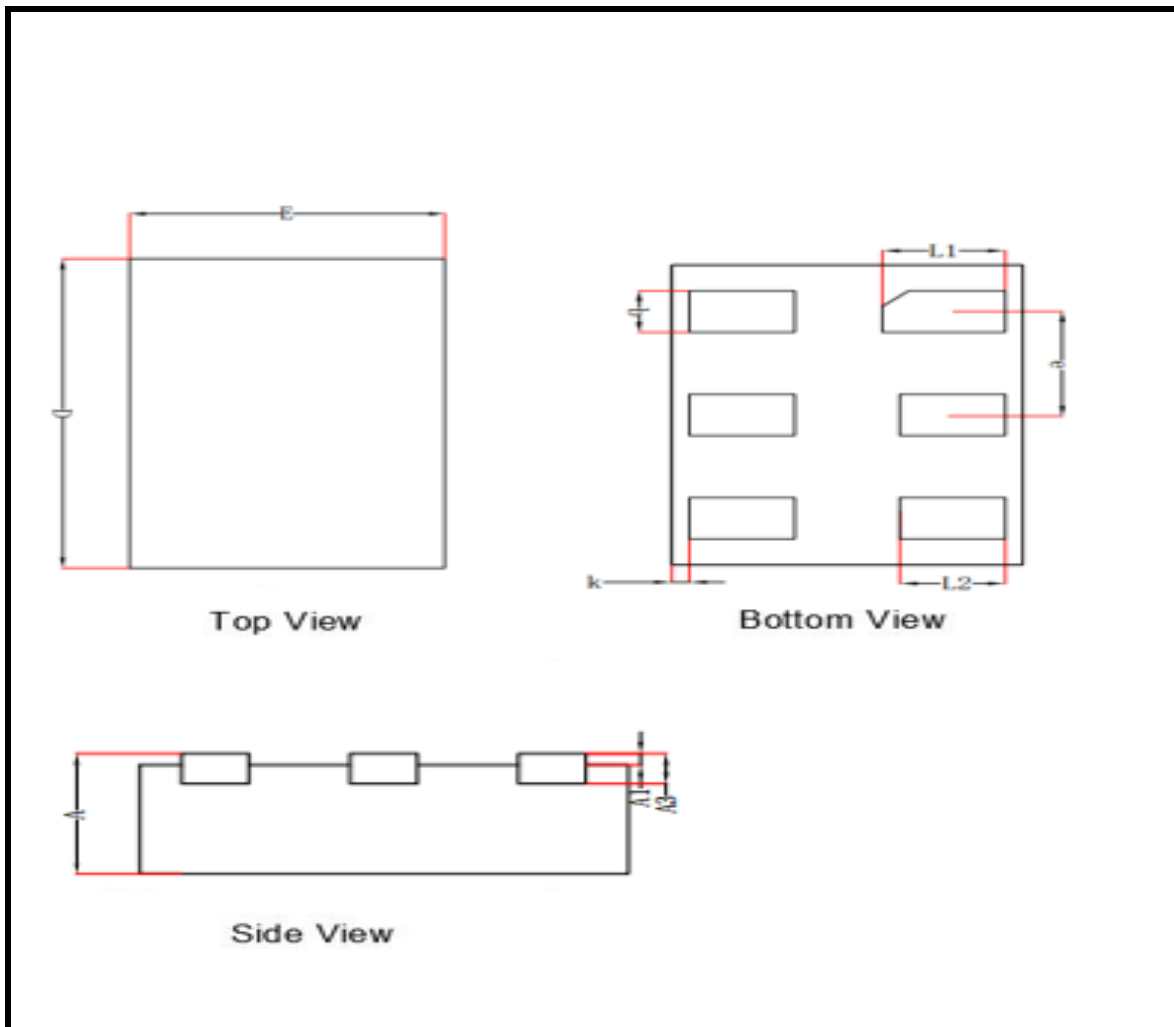
8 X 20μs Pulse Waveform



Note: Data is taken with a 10x attenuator

ESD Clamping Voltage

8 kV Contact per IEC61000-4-2



Symbol	Dimensions In Millimeters				
	MIN	NOM	MAX		
A	0.45	0.50	0.55		
A1	-	0.02	0.05		
A3	0.10	0.15	0.20		
D	1.40	1.45	1.50	图号	DFN6L 1.45*1.0
E	0.95	1.00	1.05	版本号	001
b	0.20	0.25	0.30		
L1	0.32	0.35	0.38		
L2	0.27	0.30	0.33		
k	0.25MIN				
e	0.50BSC				