

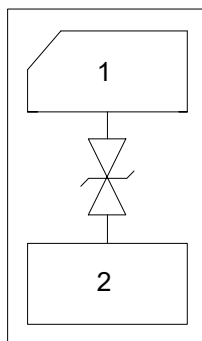
Description

The AR3621P6 is a bi-directional TVS diode, 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 AR3621P6 has an ultra-low capacitance with a typical value at 0.3pF, and complies with the IEC 61000-4-2 (ESD) with $\pm 15\text{kV}$ air and $\pm 8\text{kV}$ contact discharge. It is assembled into an ultra-small 1.6x1.0x0.5mm lead-free DFN package. The small size, ultra-low capacitance and high ESD surge protection make AR3621P6 an ideal choice to protect cell phone, digital visual interfaces, HDMI, DVI, USB2.0, USB3.0, and other high speed ports.

Features

- Ultra small package: 1.6x1.0x0.5mm
- Ultra low capacitance: 0.3pF typical
- Ultra low leakage: nA level
- Operating voltage: 36V
- Low clamping voltage
- 2-Pin leadless package
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 15\text{kV}$
 - Contact discharge: $\pm 8\text{kV}$
- RoHS Compliant

Dimensions and Pin Configuration



Circuit and Pin Schematic

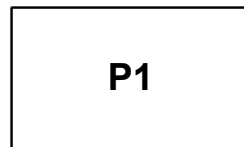
Mechanical Characteristics

- Package: DFN1610-2
- Case Material: “Green” Molding Compound.
- Terminal Connections: See Diagram Below
- Marking Information: See Below

Applications

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

Marking Information



P1 = Device Marking Code

Ordering Information

Part Number	Packaging	Reel Size
AR3621P6	3000/Tape & Reel	7 inch

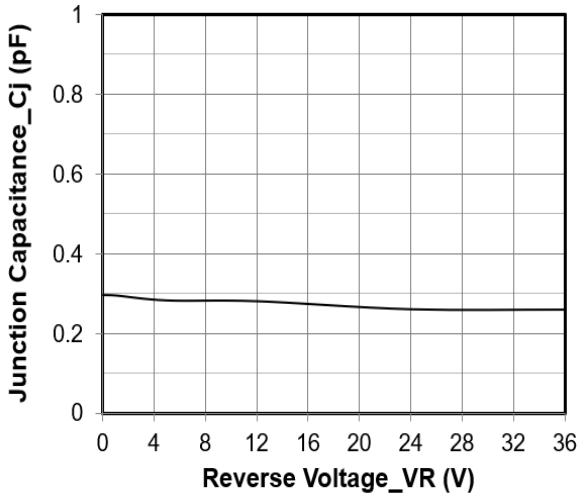
Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	Ppk	50	W
ESD per IEC 61000-4-2 (Air)	VESD	± 15	kV
ESD per IEC 61000-4-2 (Contact)		± 8	
Operating Temperature Range	TJ	-55 to +125	$^{\circ}\text{C}$
Storage Temperature Range	Tstg	-55 to +150	$^{\circ}\text{C}$

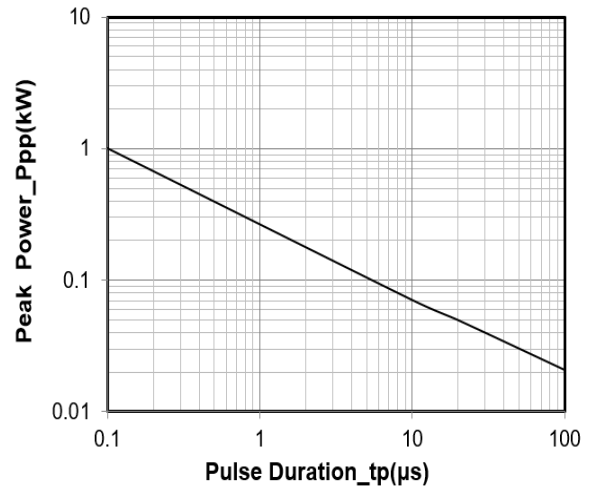
Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM			36	V	
Breakdown Voltage	VBR	37			V	$I_T = 1\text{mA}$
Reverse Leakage Current	I_R			0.5	μA	VRWM = 36V
TLP Clamping Voltage	Vc		45		V	$I_{TLP} = 4\text{A}$
TLP Clamping Voltage	Vc		72		V	$I_{TLP} = 16\text{A}$
Junction Capacitance	CJ		0.3		pF	VR = 0V, f = 1MHz

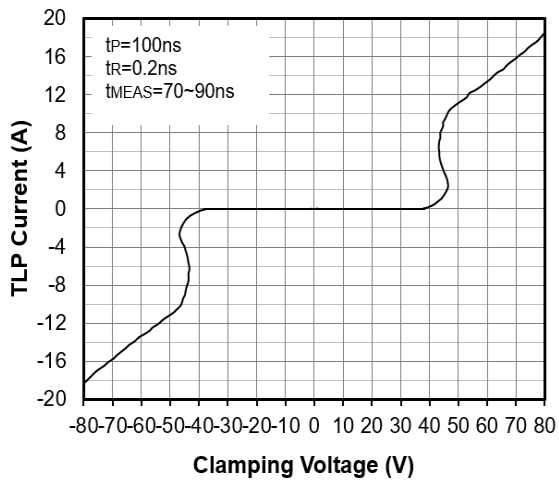
Typical Performance Characteristics (TA=25°C unless otherwise Specified)



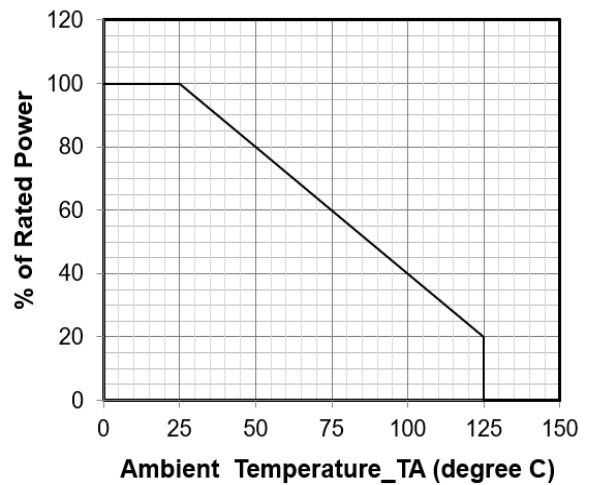
Junction Capacitance vs. Reverse Voltage



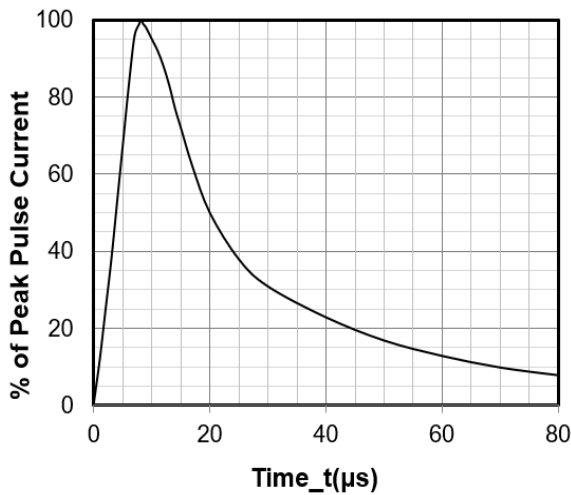
Peak Pulse Power vs. Pulse Time



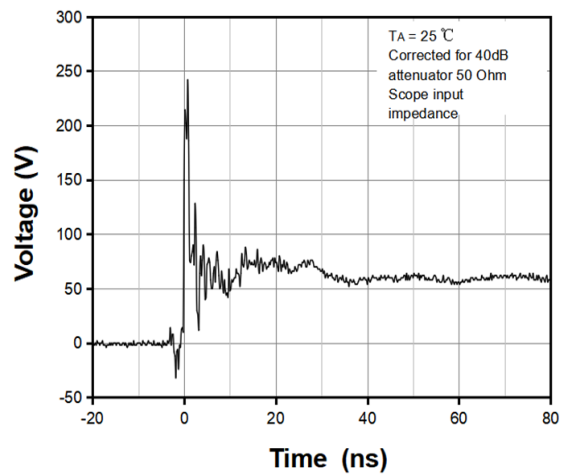
TLP Measurement



Power Derating Curve



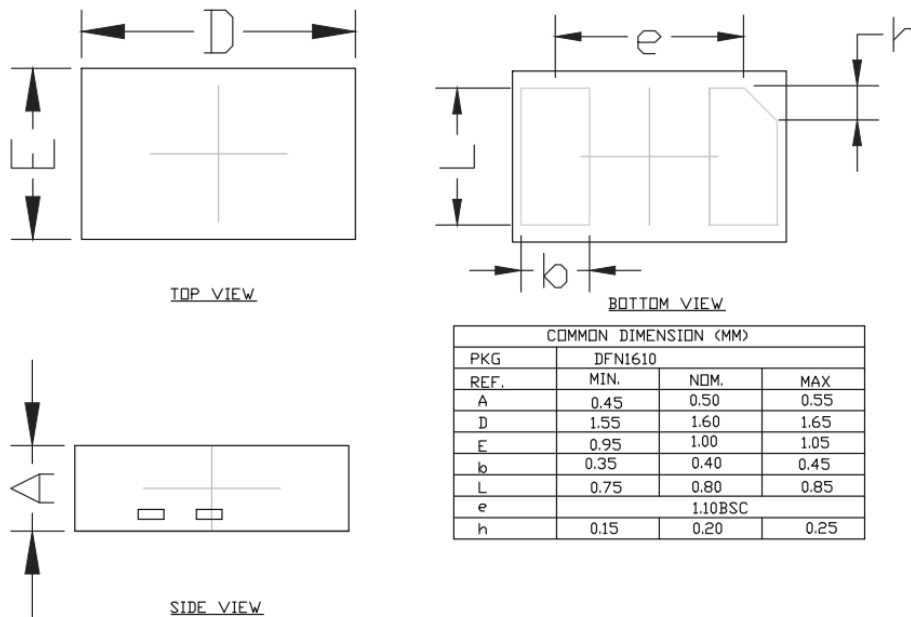
8 X 20μs Pulse Waveform



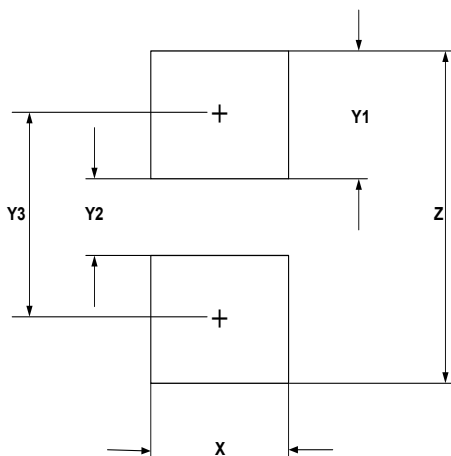
ESD Clamping Voltage

8 kV Contact per IEC61000-4-2

DFN1610-2 Package Outline Drawing



Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
X	1.00	0.040
Y1	0.62	0.025
Y2	0.60	0.024
Y3	1.22	0.049
Z	1.85	0.074

Contact Information

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