

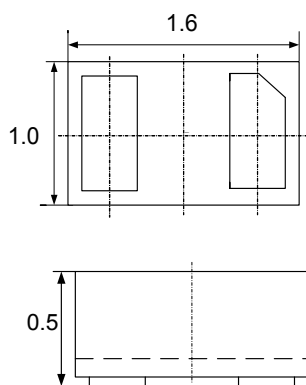
## Description

The DC1521P6 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 data and power line. The DC1521P6 complies with the IEC 61000-4-2 (ESD) standard with  $\pm 30\text{kV}$  air and  $\pm 20\text{kV}$  contact discharge. It is assembled into an ultra-small 1.6x1.0x0.5mm lead-free DFN package. The small size and high ESD surge protection make DC1521P6 an ideal choice to protect cell phone, digital cameras, audio players and many other portable applications.

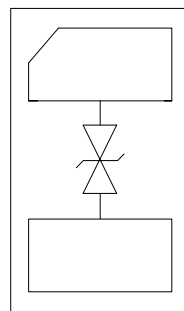
## Mechanical Characteristics

- ◆ Package: DFN1610-2
- ◆ Case Material: "Green" Molding Compound.
- ◆ Moisture Sensitivity: Level 3 per J-STD-020
- ◆ Terminal Connections: See Diagram Below
- ◆ Marking Information: See Below

## Dimensions and Pin Configuration



Package Dimensions



Circuit and Pin Schematic

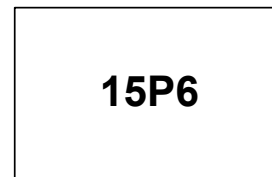
## Features

- ◆ Small package: 1.6 x1.0 x0.5mm
- ◆ Protects one data or power line
- ◆ Ultra low leakage: nA level
- ◆ Low clamping voltage
- ◆ 2-pin leadless package
- ◆ Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    - Air discharge:  $\pm 30\text{kV}$
    - Contact discharge:  $\pm 20\text{kV}$
  - IEC61000-4-5 (Lightning) 9.8A (8/20 $\mu\text{s}$ )
- ◆ RoHS Compliant

## Applications

- ◆ Mobile Phones
- ◆ Battery Protection
- ◆ Power Line Protection
- ◆ Vbat pin for Mobile Devices
- ◆ Hand Held Portable Applications

## Marking Information



15P6= Device Marking Code

## Ordering Information

Part Number	Marking	Packaging	Reel Size
DC1521P6	15P6	3000/Tape & Reel	7 inch

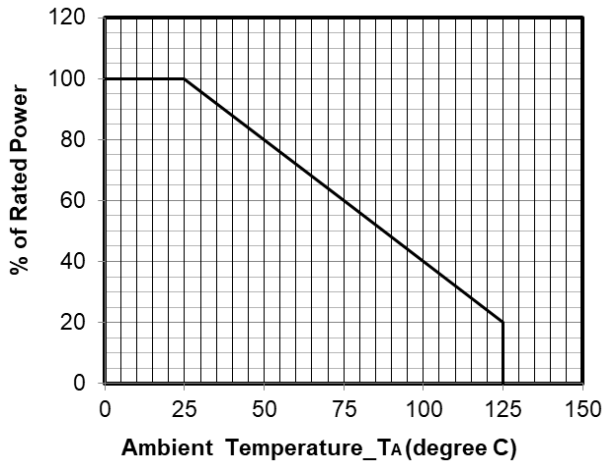
### **Absolute Maximum Ratings ( $T_A=25^{\circ}\text{C}$ unless otherwise specified)**

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 $\mu\text{s}$ )	Ppk	325	W
Peak Pulse Current (8/20 $\mu\text{s}$ )	Ipp	9.8	A
ESD per IEC 61000-4-2 (Air)	VESD	$\pm 30$	kV
ESD per IEC 61000-4-2 (Contact)		$\pm 20$	
Operating Temperature Range	TJ	-55 to +125	$^{\circ}\text{C}$
Storage Temperature Range	Tstg	-55 to +150	$^{\circ}\text{C}$

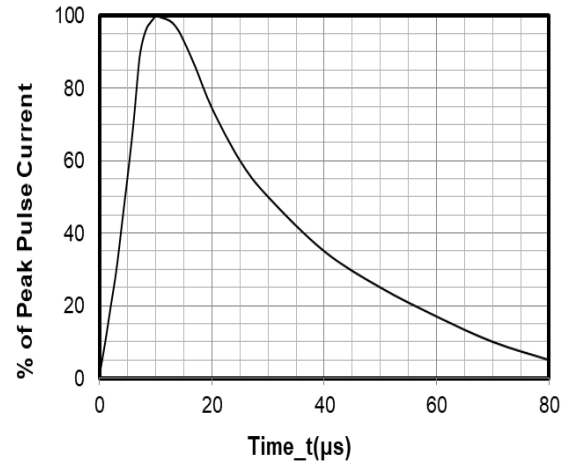
### **Electrical Characteristics ( $T_A=25^{\circ}\text{C}$ unless otherwise specified)**

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM			15	V	
Breakdown Voltage	VBR	16.7			V	$I_T = 1\text{mA}$
Reverse Leakage Current	$I_R$			1.0	$\mu\text{A}$	VRWM = 15V
Clamping Voltage	VC			23	V	I <sub>PP</sub> = 2A (8 x 20 $\mu\text{s}$ pulse)
Clamping Voltage	VC			33	V	I <sub>PP</sub> = 9.8A (8 x 20 $\mu\text{s}$ pulse)
Junction Capacitance	CJ		20		pF	VR = 0V, f = 1MHz

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



**Power Derating Curve**



**8 X 20µs Pulse Waveform**

