

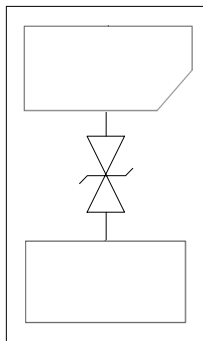
### Description

The AR3341P0SC 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 AR3341P0SC has a low capacitance with a typical value at 0.45pF, and complies with the IEC 61000-4-2 (ESD) with  $\pm 30\text{kV}$  air and  $\pm 30\text{kV}$  contact discharge. The small size, low capacitance and high ESD surge protection make AR3341P0SC an ideal choice to protect cell phone, digital visual interfaces, HDMI, DVI, USB2.0, USB3.0, and other high speed ports.

### Features

- low capacitance: 0.45pF typical
- Ultra low leakage: nA level
- Operating voltage: 3.3V
- 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:  $\pm 30\text{kV}$
  - IEC61000-4-5 (Lightning) 10A (8/20 $\mu\text{s}$ )
- RoHS Compliant

### Equivalent Circuit and Pin Configuration



Circuit and Pin Schematic

### Mechanical Characteristics

- Package: DFN0603-2
- Case Material: “Green” Molding Compound.
- Terminal Connections: See Diagram Below
- Marking Information: See Below

### Applications

- Cellular Handsets and Accessories
- Display Ports
- MDDI / MHL
- USB 2.0 / USB 3.0
- Digital Visual Interface (DVI)
- PCI Express and Serial SATA Ports



Caution:

This Device is designed for signal line protection only.

Not intended to be used under bias, not for application with a power line.

### Marking Information



4S= Device Marking Code

### Ordering Information

Part Number	Packaging	Reel Size
AR3341P0SC	10000/Tape & Reel	7 inch

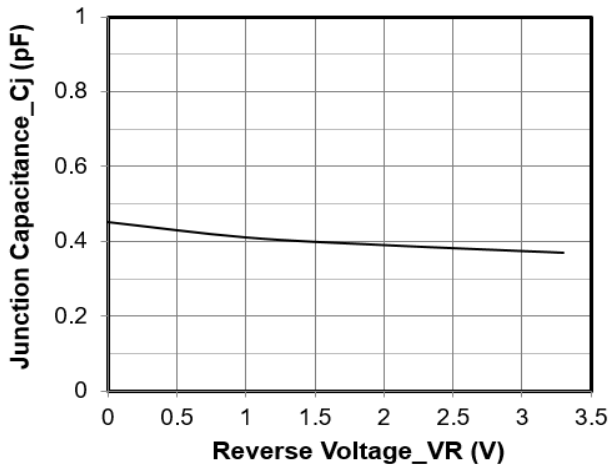
**Absolute Maximum Ratings (T<sub>A</sub>=25°C unless otherwise specified)**

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	60	W
Peak Pulse Current (8/20μs)	I <sub>PP</sub>	10	A
ESD per IEC 61000-4-2 (Air)	V <sub>ESD</sub>	±30	kV
ESD per IEC 61000-4-2 (Contact)		±30	
Operating Temperature Range	T <sub>J</sub>	-40 to +125	°C
Storage Temperature Range	T <sub>stg</sub>	-55 to +150	°C

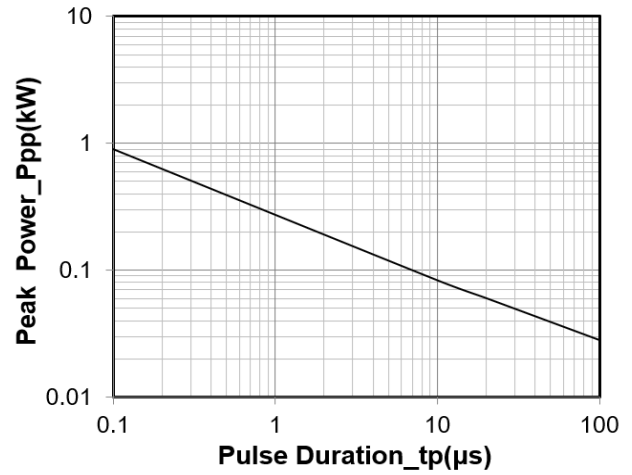
**Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise specified)**

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V <sub>RWM</sub>			3.3	V	
Punch-Through Voltage	V <sub>PT</sub>	3.5			V	I <sub>PT</sub> = 2μA
Breakdown Voltage	V <sub>BR</sub>	4			V	I <sub>T</sub> = 1mA
Snap-Back Voltage	V <sub>SB</sub>	2			V	I <sub>SB</sub> = 50mA
Reverse Leakage Current	I <sub>R</sub>			0.5	μA	V <sub>RWM</sub> = 3.3V
Clamping Voltage	V <sub>C</sub>		4	6	V	I <sub>PP</sub> = 10A (8 x 20μs pulse)
Junction Capacitance	C <sub>J</sub>		0.45	0.55	pF	V <sub>R</sub> = 0V, f = 1MHz

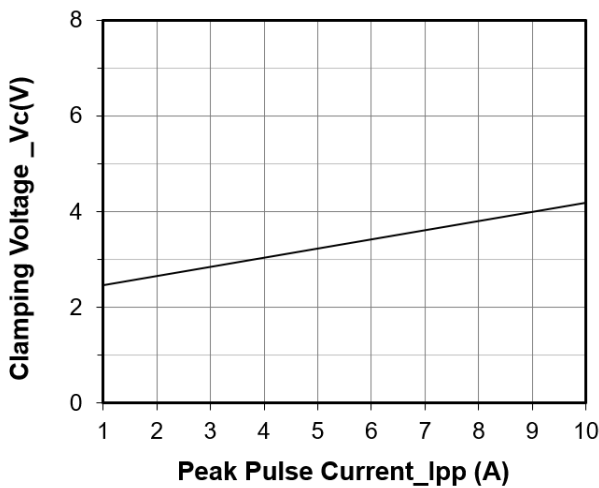
**Typical Performance Characteristics (T<sub>A</sub>=25°C unless otherwise Specified)**



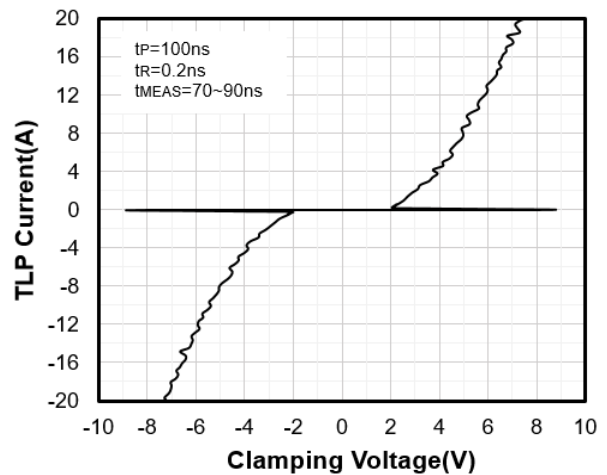
**Junction Capacitance vs. Reverse Voltage**



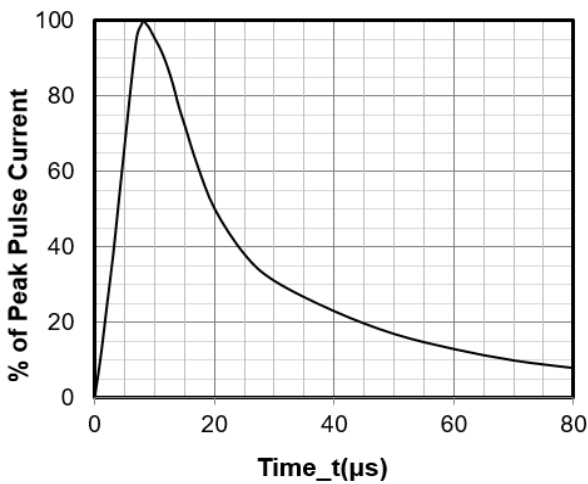
**Peak Pulse Power vs. Pulse Time**



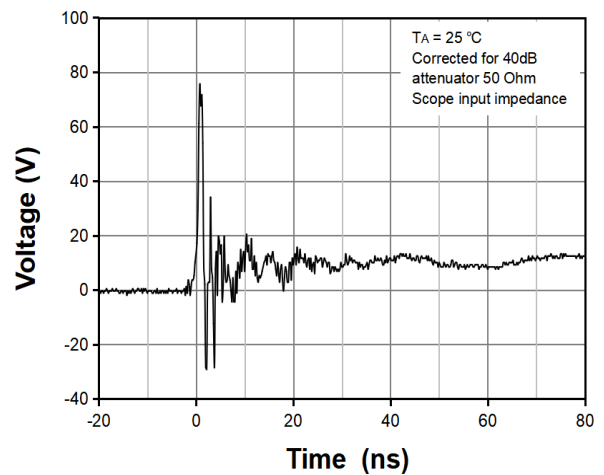
**Clamping Voltage vs. Peak Pulse Current (tp = 8/20μs)**



**TLP Curve**

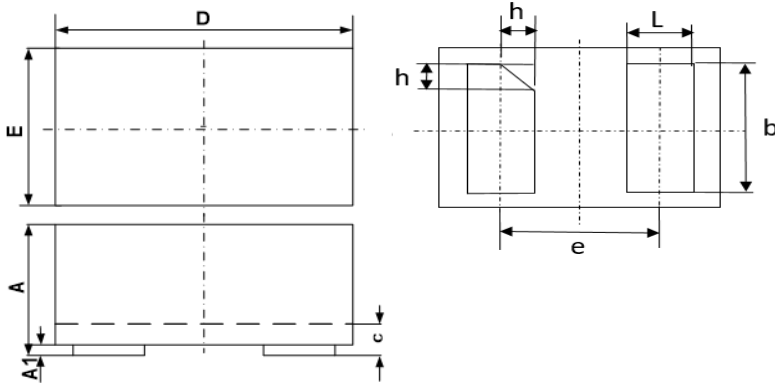


**8 X 20μs Pulse Waveform**



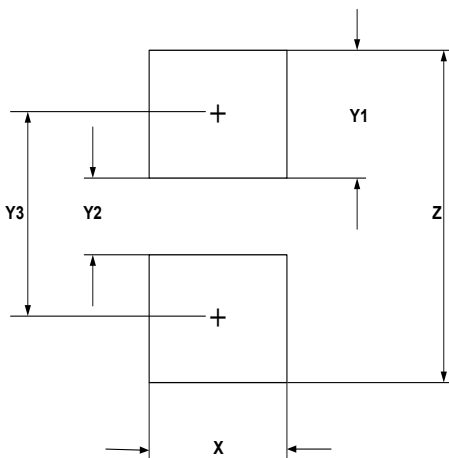
**ESD Clamping Voltage**  
**8 kV Contact per IEC61000-4-2**

### DFN0603-2 Package Outline Drawing



SYM	DIMENSIONS		
	MILLIMETERS		
	MIN	NOM	MAX
A	0.280	--	0.320
A1	0.000	0.020	0.050
b	0.200	0.245	0.300
c	0.050	0.100	0.150
D	0.550	0.600	0.650
e	0.355 BSC		
E	0.250	0.300	0.350
L	0.130	0.190	0.240
h	0.050 BSC		

### Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
X	0.30	0.012
Y1	0.25	0.010
Y2	0.15	0.006
Y3	0.40	0.016
Z	0.65	0.026

### Contact Information

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