

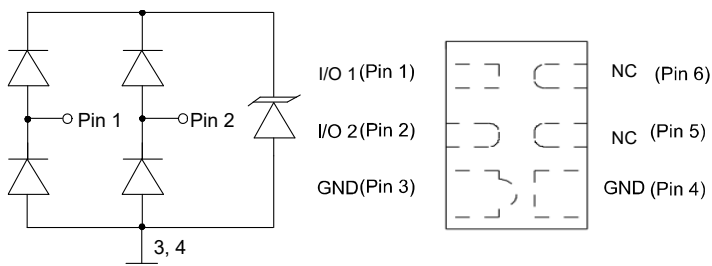
Description

The AR0502P6 is an uni-directional TVS diode 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 AR0502P6 has an ultra-low capacitance with a typical value at 0.6pF, and complies with the IEC 61000-4-2 (ESD) with $\pm 25\text{kV}$ air and $\pm 20\text{kV}$ contact discharge. It is assembled into an ultra-small 1.6x1.0x0.75mm lead-free DFN package. The small size, ultra-low capacitance and high ESD surge protection make AR0502P6 an ideal choice to protect cell phone, digital video interfaces and other high speed ports.

Features

- Small package: 1.6x1.0x0.75mm
- Ultra low capacitance: 0.6pF typical
- Ultra low leakage: nA level
- Operating voltage: 5V
- Low clamping voltage
- 6-pin leadless package
- Protects two lines
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
Air discharge: $\pm 25\text{kV}$
Contact discharge: $\pm 20\text{kV}$
 - IEC61000-4-5 (Lightning) 5A (8/20 μs)
- RoHS Compliant

Dimensions and Pin Configuration



Circuit Schematic

PIN Schematic

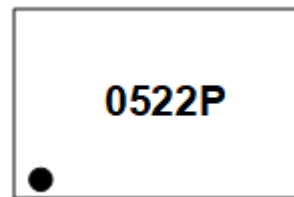
Mechanical Characteristics

- Package: DFN1610-6
- Case Material: “Green” Molding Compound.
- Terminal Connections: See Diagram Below
- Marking Information: See Below

Applications

- Cellular Handsets and Accessories
- USB Ports
- Video Interface
- MDDI Ports

Marking Information



0522P = Device Marking Code
 Dot denotes Pin1

Ordering Information

Part Number	Packaging	Reel Size
AR0502P6	3000/Tape & Reel	7 inch

Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20µs)	Ppk	75	W
Peak Pulse Current (8/20µs)	I _{PP}	5	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V _{ESD}	±25 ±20	kV
Operating Temperature Range	T _J	-55 to +125	°C
Storage Temperature Range	T _{stg}	-55 to +150	°C

Electrical Characteristics (T_A=25°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V _{RWM}			5	V	
Breakdown Voltage	V _{BR}	6			V	I _T = 1mA
Reverse Leakage Current	I _R			0.5	µA	V _{RWM} = 5V
Clamping Voltage	V _C			10	V	I _{PP} = 1A (8 x 20µs pulse), any I/O pin to ground
Clamping Voltage	V _C			15	V	I _{PP} = 5A (8 x 20µs pulse), any I/O pin to ground
Junction Capacitance	C _J		0.3	0.4	pF	V _R = 0V, f = 1MHz, between I/O pins
Junction Capacitance	C _J			0.8	pF	V _R = 0V, f = 1MHz, any I/O pin to ground

