# Transient Voltage Suppressor, Single 5V, 0402 SMD

## Features

- Single channel voltage suppressor in a surface mount EIA standard 0402-sized device
- Compact 0402 size saves board space and eases layout in area critical applications compared to traditional wire bonded IC packages
- In-system ESD protection to over 30kV contact discharge per IEC 61000-4-2 international ESD standard
- Improved electrical characteristics over P0402FC05C Protek devices
- Less than 10µA leakage at 5.9V

## Applications

- Cell phones
- PDAs
- Palmtop PCs
- Notebook PCs
- Set-top box audio and video ports
- Protection of interface ports or IC pins which are exposed to ESD hazards
- PCMCIA cards (PC card)

## Product Description

The PACDN3401C is a transient voltage suppressor that is ideal for very high level protection for sensitive 5V electronic components that may be subjected to electrostatic discharge (ESD). The bipolar configuration provides symmetrical ESD protection in cases where nodes with AC signals are present. This device is designed and characterized to safely dissipate ESD strikes at 30kV contact discharge, well beyond the maximum requirements of the IEC 61000-4-2 international standard (Level 4, 8kV contact discharge).

Using the MIL-STD-883D (Method 3015) specification for Human Body Model (HBM) ESD, signal pins are protected for contact discharges to greater than 30kV.

**Schematic Configuration**

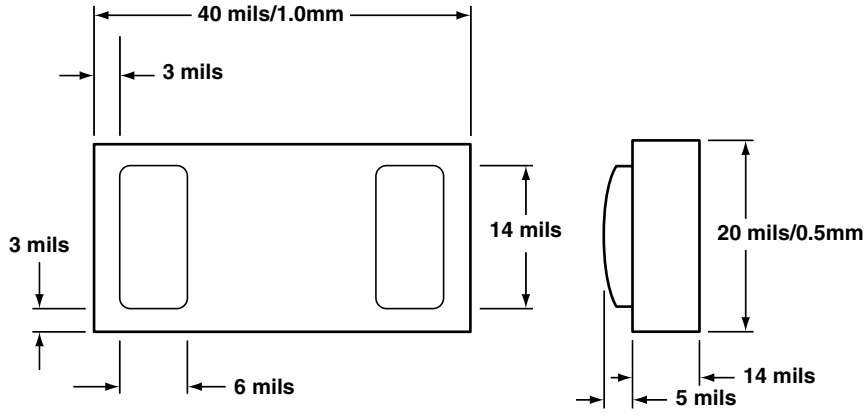
**Standard Part Ordering Information**

| Package | | Ordering Part Number |
|---|---|---|
| Style | Bumps | Tape & Reel |
| Chip Scale | 2 | PACDN3401C/R |

| Specifications: (At 25°C unless specified otherwise) | | | | |
|---|---|---|---|---|
| | MIN | TYPE | MAX | UNIT |
| Reverse Stand-off Voltage, I = 10µA | ±5.9 | | | V |
| Signal Clamp Voltage:<br>Positive Clamp, 10mA<br>Negative Clamp, 10mA | <br>6.0<br>–9.2 | <br>7.5<br>–7.5 | <br>9.2<br>–6.0 | <br>V<br>V |
| In-system ESD withstand voltage*:<br>Human Body Model (MIL-STD-883D, method 3015)<br>IEC 61000-4-2, contact discharge method | <br>±30<br>±30 | | | <br>kV<br>kV |
| Clamping voltage during ESD discharge*<br>MIL-STD-883D (Method 3015), 8kV | | 13 | | V |
| Capacitance at 0V dc, 1MHz | | 45 | | pF |
| Temperature Range:<br>Operating<br>Storage | <br>–40<br>–65 | | <br>85<br>150 | °C |

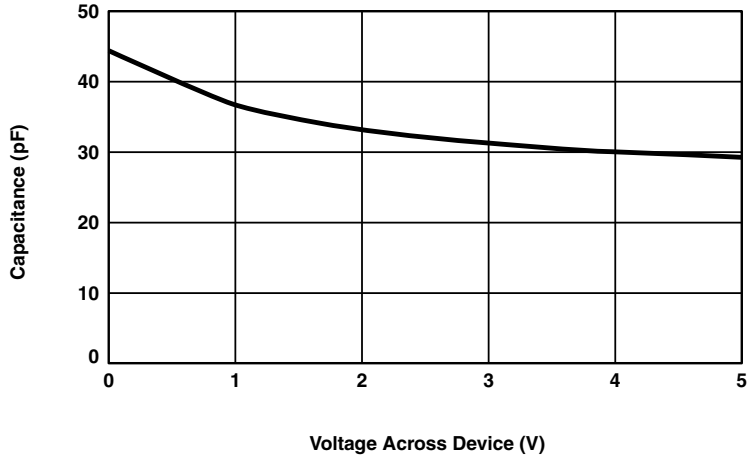
* This parameter is guaranteed by design and characterization.

## Device Dimensions




**Dimensions are ±2 mils**
**1000 mils = 1 inch**

## Device Capacitance




**Typical Device Capacitance vs. Voltage**