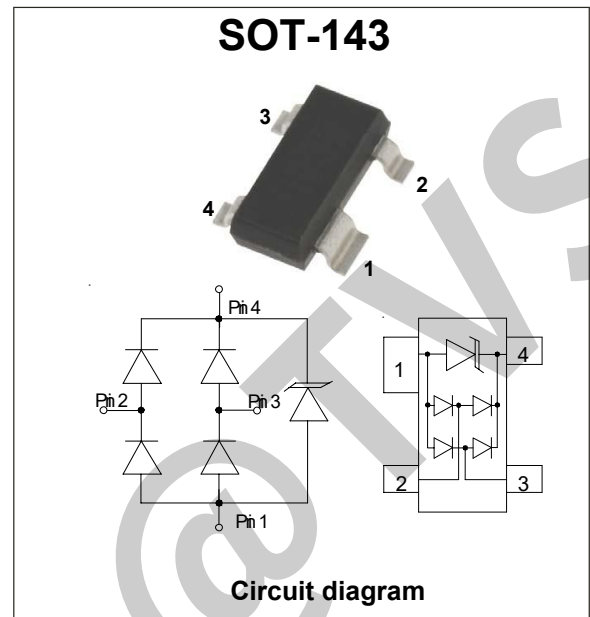


## Features

- Ultra low capacitance: 1.0pF typical
- Ultra low leakage: nA level
- Operating voltage: 5V
- Low clamping voltage
- 4-pin SOT-143 package
- Protects two data lines and one power line
- IEC 61000-4-2 (ESD): Air  $\pm 25\text{kV}$ , Contact  $\pm 20\text{kV}$
- IEC 61000-4-5 (Lightning): 8A (8/20 $\mu\text{s}$ )
- RoHS Compliant

## Mechanical Data

- Package: SOT-143
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound
- Terminal Connections: See Diagram Below



## Applications

- Cellular Handsets and Accessories
- Notebooks and Handhelds
- Personal Digital Assistants (PDAs)
- Portable Instrumentation
- Digital Cameras and Peripherals
- Audio Players, Keypads, Side Keys, LCD

## Ordering information

| Order code | Marking | Package | Packaging option | Base quantity   | Packaging specification |
|------------|---------|---------|------------------|-----------------|-------------------------|
| DCE0502S1Q | R05     | SOT-143 | Tape and reel    | 10000pcs / reel | EIA STD RS-481          |

## Absolute Maximum Ratings

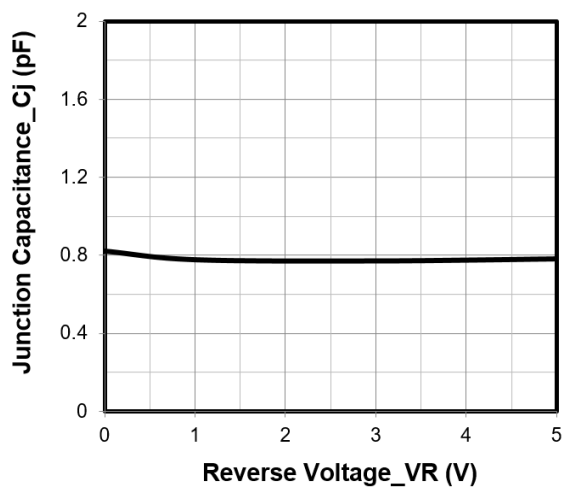
Ratings at 25 °C, ambient temperature unless otherwise specified

| Parameter                                    | Symbol    | Value           | Unit |
|----------------------------------------------|-----------|-----------------|------|
| Peak Pulse Power ( $T_P=8/20\mu\text{s}$ )   | $P_{PP}$  | 100             | W    |
| ESD contact/air discharge (IEC-61000-4-2)    | $V_{ESD}$ | $\pm 20/\pm 25$ | kV   |
| Peak Pulse Current ( $T_P=8/20\mu\text{s}$ ) | $I_{PP}$  | 8               | A    |
| Junction Temperature                         | $T_J$     | -55 to +125     | °C   |
| Operation temperature                        | $T_{OP}$  | -55 to +125     | °C   |
| Storage temperature                          | $T_{STG}$ | -55 to +150     | °C   |

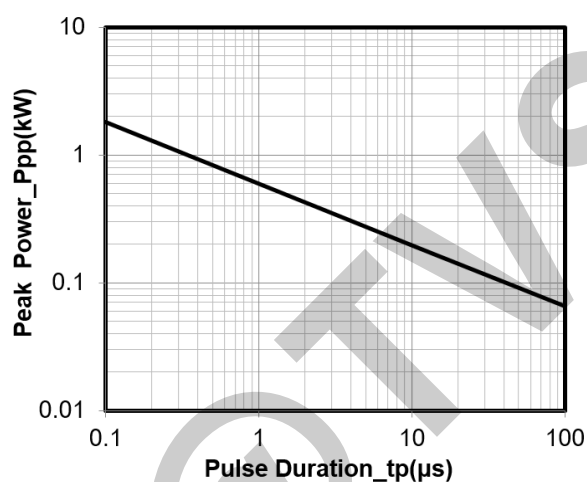
**Electrical Characteristics**(T<sub>A</sub> = 25 °C unless otherwise specified)

| Parameter                 | Symbol           | Condition                                    | Min | Typ | Max | Unit |
|---------------------------|------------------|----------------------------------------------|-----|-----|-----|------|
| Reverse stand-off Voltage | V <sub>RWM</sub> |                                              | -   | -   | 5   | V    |
| Holding Voltage           | V <sub>BR</sub>  | I <sub>T</sub> = 1mA                         | 6   | -   | -   | V    |
| Reverse Leakage Current   | I <sub>R</sub>   | V <sub>RWM</sub> = 5V                        | -   | -   | 0.2 | uA   |
| Clamping Voltage          | V <sub>C</sub>   | I <sub>PP</sub> = 1A, t <sub>p</sub> =8/20μs | -   | 9   | 12  | V    |
| Clamping Voltage          | V <sub>C</sub>   | I <sub>PP</sub> = 8A, t <sub>p</sub> =8/20μs | -   | 13  | 15  | V    |
| Junction Capacitance      | C <sub>J</sub>   | V <sub>R</sub> =0V, f=1MHz                   | -   | 1.0 | -   | pF   |

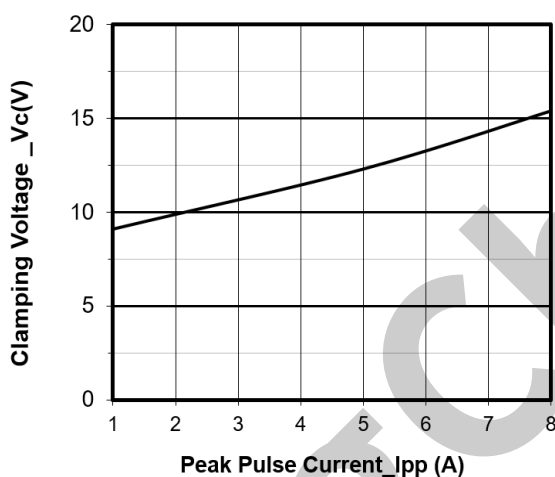
## Typical Performance Characteristics (TA=25°C unless otherwise Specified)



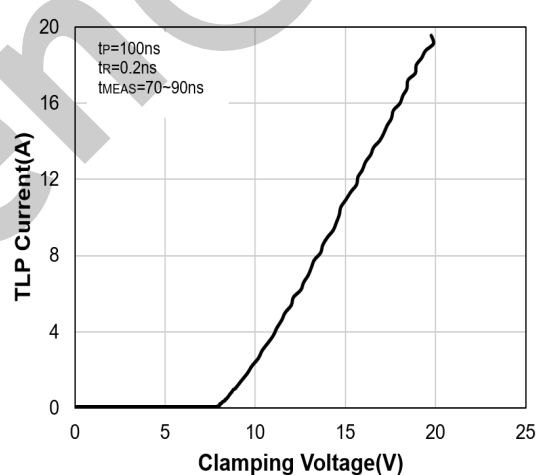
Junction Capacitance vs. Reverse Voltage



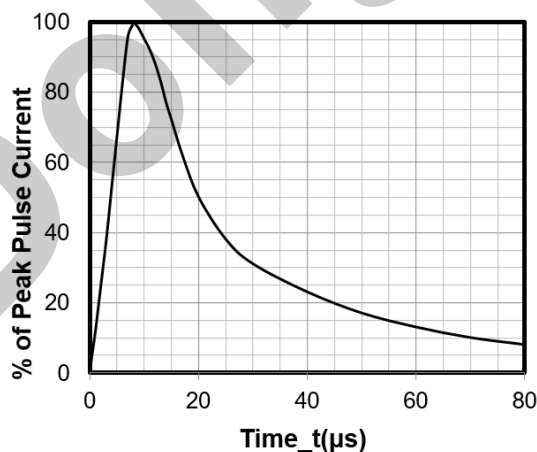
Peak Pulse Power vs. Pulse Time



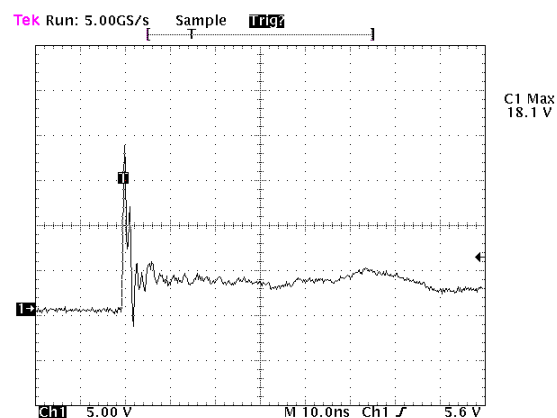
Clamping Voltage vs. Peak Pulse Current



TLP Curve



8 X 20 $\mu$ s Pulse Waveform



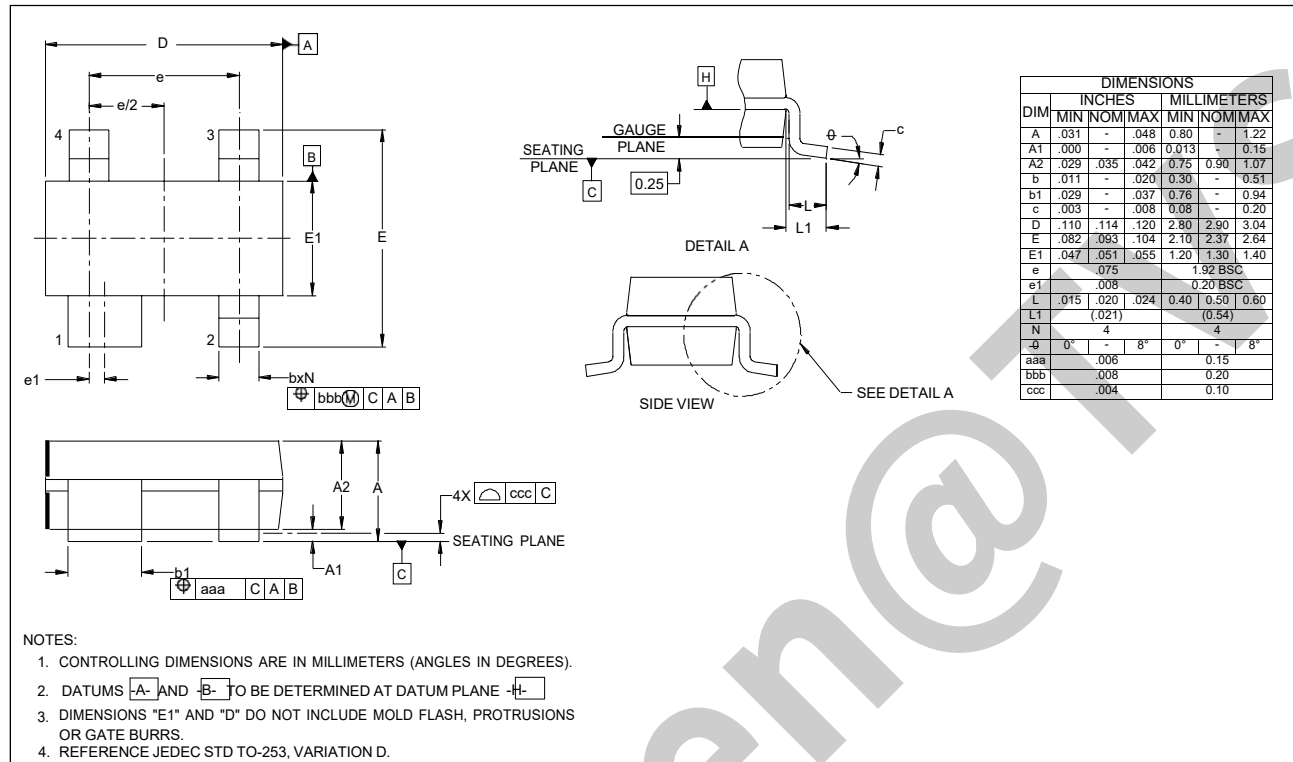
Note: Data is taken with a 10x attenuator

ESD Clamping Voltage

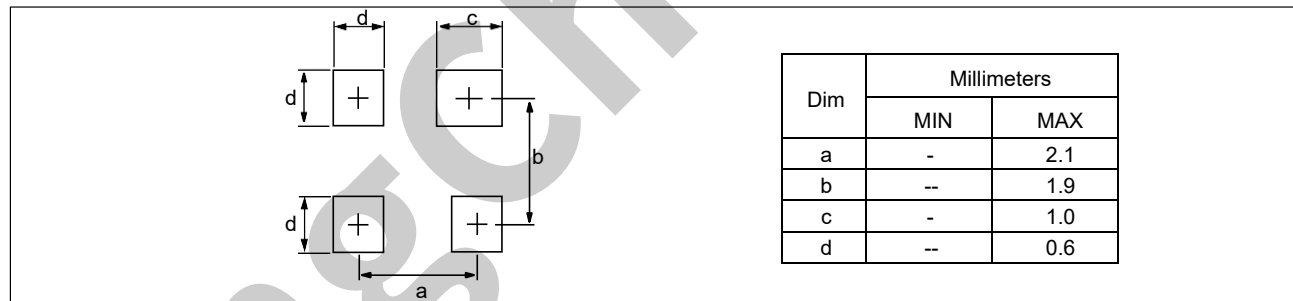
8 kV Contact per IEC61000-4-2

## 2-Line Ultra Low Capacitance TVS Diode Array

### Package Dimensions



### Pad Dimensions



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