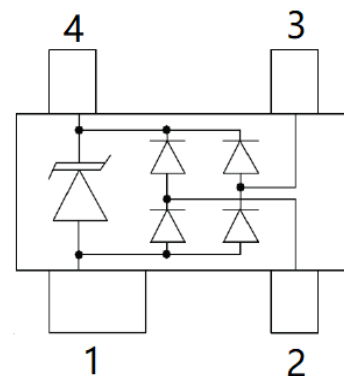


### TVS Diode Array

#### Features

- 150 Watts peak pulse power ( $t_p = 8/20\mu s$ )
- Transient protection for high speed data lines to IEC 61000-4-2 (ESD)  $\pm 15kV$  (air),  $\pm 8kV$  (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- Working voltages : 5V
- Protects two I/O lines
- Low operating and clamping voltages
- Solid-state silicon avalanche technology



#### Applications

- Notebooks, Desktops, Servers and Video Graphics Cards
- USB Power & Data Line Protection
- Monitors and Flat Panel Displays
- I<sup>2</sup>C Bus Protection
- Portable Instrumentation
- Set Top Box
- Marking : WR1

**SOT-143**

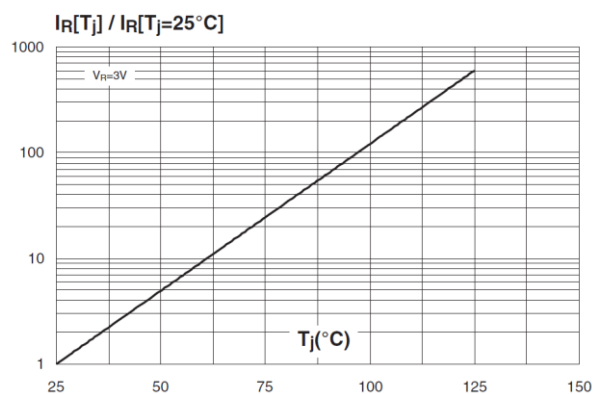
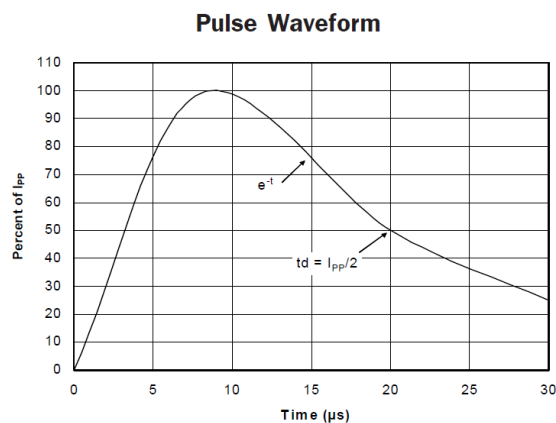
#### Maximum Rating @ Ta=25°C unless otherwise specified

| Symbol           | Parameter                              | Ratings     | Units |
|------------------|----------------------------------------|-------------|-------|
| P <sub>PK</sub>  | Peak Pulse Power ( $t_p = 8/20\mu s$ ) | 150         | Watts |
| T <sub>L</sub>   | Lead Soldering Temperature             | 260(10sec.) | °C    |
| T <sub>J</sub>   | Operating Temperature                  | -55 to +125 | °C    |
| T <sub>STG</sub> | Storage Temperature                    | -55 to +150 | °C    |

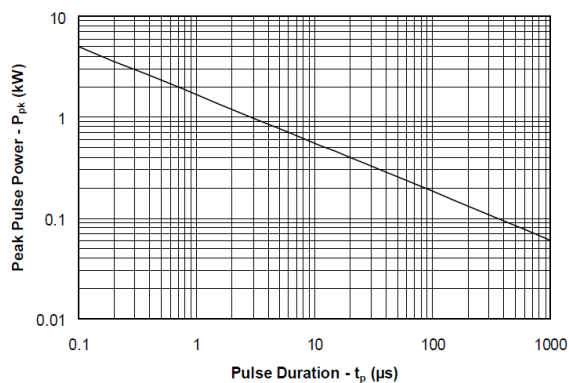
### Electrical Characteristics@ Ta=25°C unless otherwise

| Symbol    | Parameter                 | Conditions                                                                | Min. | Typ. | Max. | Units         |
|-----------|---------------------------|---------------------------------------------------------------------------|------|------|------|---------------|
| $V_{RRM}$ | Reverse Working Voltage   | Any I/O to Ground                                                         |      |      | 5    | V             |
| $V_{BR}$  | Reverse Breakdown Voltage | $I_T = 1\text{mA}$ ,<br>Any I/O to Ground                                 | 6    |      |      | V             |
| $I_R$     | Reverse Leakage Current   | $V_{RWM} = 5\text{V}$ ,<br>Any I/O to Ground                              |      |      | 1    | $\mu\text{A}$ |
| $V_C$     | Clamping Voltage          | $I_{PP} = 1\text{A}$ , $t_p = 8/20\mu\text{s}$ ,<br>any I/O pin to Ground |      |      | 15.5 | V             |
|           |                           | $I_{PP} = 4\text{A}$ , $t_p = 8/20\mu\text{s}$ ,<br>any I/O pin to Ground |      |      | 20   | V             |
| $C_J$     | Junction Capacitance      | $V_R = 0\text{V}$ , $f = 1\text{MHz}$ ,<br>between I/O pins               |      | 0.3  | 0.6  | pF            |
|           |                           | $V_R = 0\text{V}$ , $f = 1\text{MHz}$ ,<br>any I/O pin to Ground          |      | 0.6  | 1    | pF            |

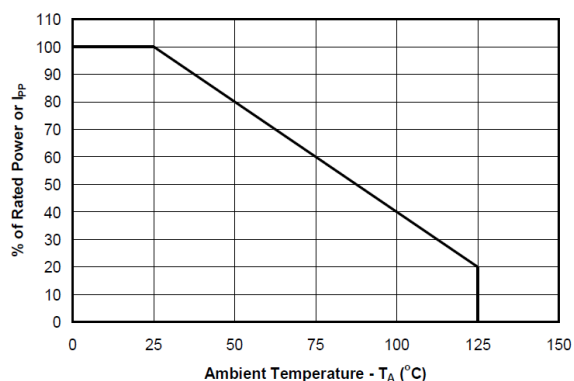
### Typical Characteristics@ Ta=25°C unless otherwise specified



### Non-Repetitive Peak Pulse Power vs. Pulse Time



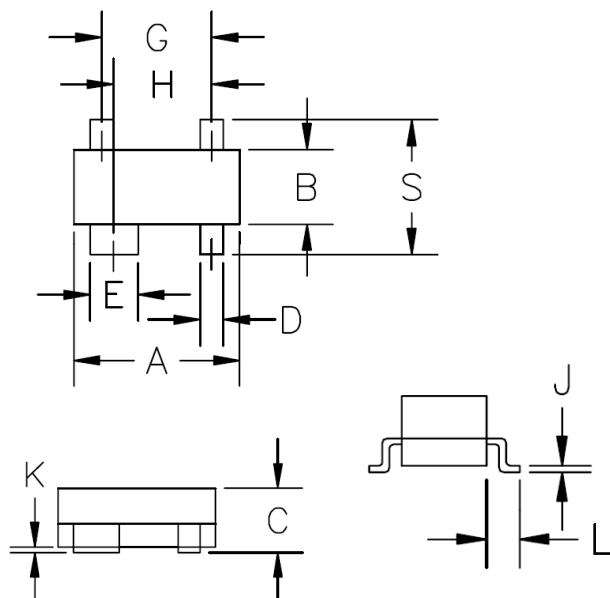
### Power Derating Curve



### Package Outline

Plastic surface mounted package

SOT-143



| DIMENSIONS       |        |      |      |      |      |
|------------------|--------|------|------|------|------|
| DIM <sup>N</sup> | INCHES |      | MM   |      | NOTE |
|                  | MIN    | MAX  | MIN  | MAX  |      |
| A                | .110   | .120 | 2.80 | 3.04 | —    |
| B                | .047   | .055 | 1.20 | 1.40 | —    |
| C                | .031   | .047 | .80  | 1.20 | —    |
| D                | .014   | .018 | .37  | .510 | —    |
| E                | .030   | .035 | .76  | .940 | —    |
| G                | .076   | BSC  | 1.92 | BSC  | —    |
| H                | .068   | BSC  | 1.72 | BSC  | —    |
| J                | .003   | .005 | .085 | .180 | —    |
| K                | .002   | .005 | .013 | 0.10 | —    |
| L                | .010   | .022 | —    | .55  | REF  |
| S                | .082   | .104 | 2.10 | 2.64 | —    |