

### Features

- Ultra low leakage: nA level
- Operating voltage: 5V
- Low clamping voltage
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    - Air discharge:  $\pm 30\text{kV}$
    - Contact discharge:  $\pm 30\text{kV}$
  - IEC61000-4-4 (EFT) 40A (5/50ns)
  - IEC61000-4-5 (Lightning) 6A (8/20 $\mu\text{s}$ )
- RoHS Compliant

### Mechanical Characteristics

- Package: SOT23-6
- Lead Finish: Matte Tin
- UL Flammability Classification Rating 94V-0
- Pb-Free, Halogen Free, RoHS/WEEE Compliant



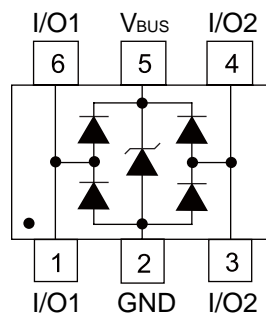
### Applications

- USB 2.0 interface
- 10/100 Ethernet
- Personal digital assistants (PDA's)
- Notebooks, Desktops and Servers
- Portable instrumentation
- Digital cameras

### Ordering Information

| Part Number   | Qty per Reel | Reel Size |
|---------------|--------------|-----------|
| TPUSBLC6-2SC6 | 3000         | 7"        |

### Dimensions and Pin Configuration



**Absolute Maximum Ratings ( $T_A=25^\circ\text{C}$  unless otherwise specified)**

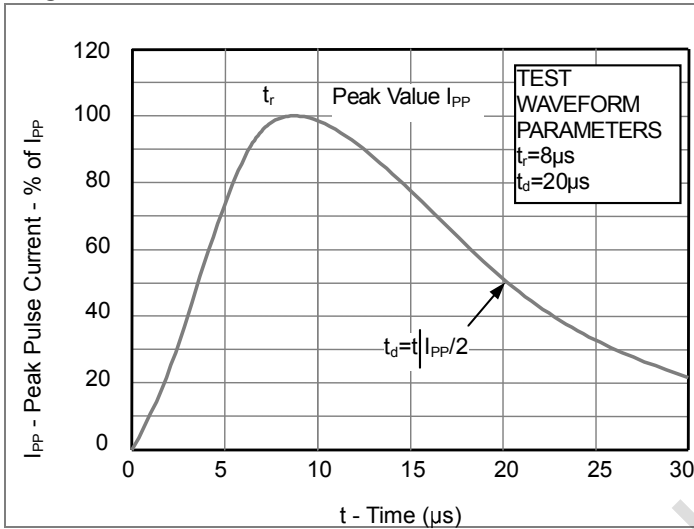
| Parameter                                | Symbol | Value       | Unit             |
|--|--------|-------------|------------------|
| Peak Pulse Power (8/20 $\mu\text{s}$ )   | Ppk    | 150         | W                |
| Peak Pulse Current (8/20 $\mu\text{s}$ ) | Ipp    | 6           | A                |
| ESD per IEC 61000-4-2 (Air)              | VESD   | $\pm 30$    | kV               |
| ESD per IEC 61000-4-2 (Contact)          |        | $\pm 30$    |                  |
| Operating Temperature Range              | TJ     | -55 to +125 | $^\circ\text{C}$ |
| Storage Temperature Range                | Tstg   | -55 to +150 | $^\circ\text{C}$ |

**Electrical Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise specified)**

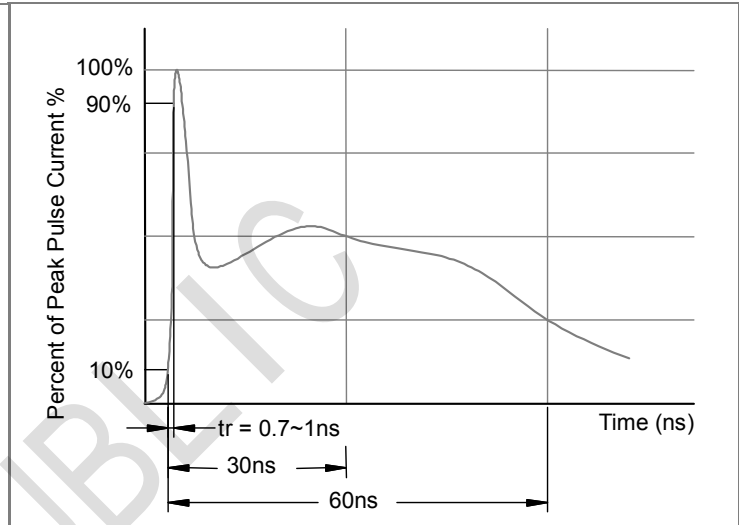
| Parameter                                 | Symbol    | Test Condition                              | Min | Typ  | Max | Unit          |
|---|-----------|---|-----|------|-----|---------------|
| Reverse stand-off voltage                 | $V_{RWM}$ |   |     |      | 5   | V             |
| Reverse breakdown voltage                 | $V_{BR}$  | $I_{BR}=1\text{mA}$                         | 6   |      | 9   | V             |
| Reverse leakage current                   | $I_R$     | $V_R=5\text{V}$                             |     |      | 0.1 | $\mu\text{A}$ |
| Clamping voltage (tp=8/20 $\mu\text{s}$ ) | $V_C$     | $I_{PP}=1\text{A}$                          |     |      | 10  | V             |
| Clamping voltage (tp=8/20 $\mu\text{s}$ ) | $V_C$     | $I_{PP}=6\text{A}$                          |     |      | 15  | V             |
| Junction capacitance                      | $C_J$     | 0Vdc, f=1MHz<br>Between I/O<br>pins and GND |     | 0.8  | 1   | pF            |
|   | $C_J$     | 0Vdc, f=1MHz<br>I/O to I/O                  |     | 0.35 | 0.4 | pF            |

**PROTECTION PRODUCTS**  
Typical characteristics

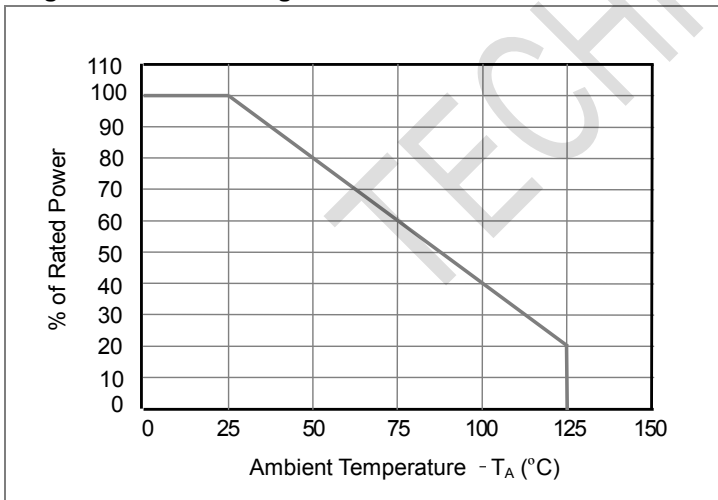
**Fig1. 8/20 $\mu$ s Pulse Waveform**



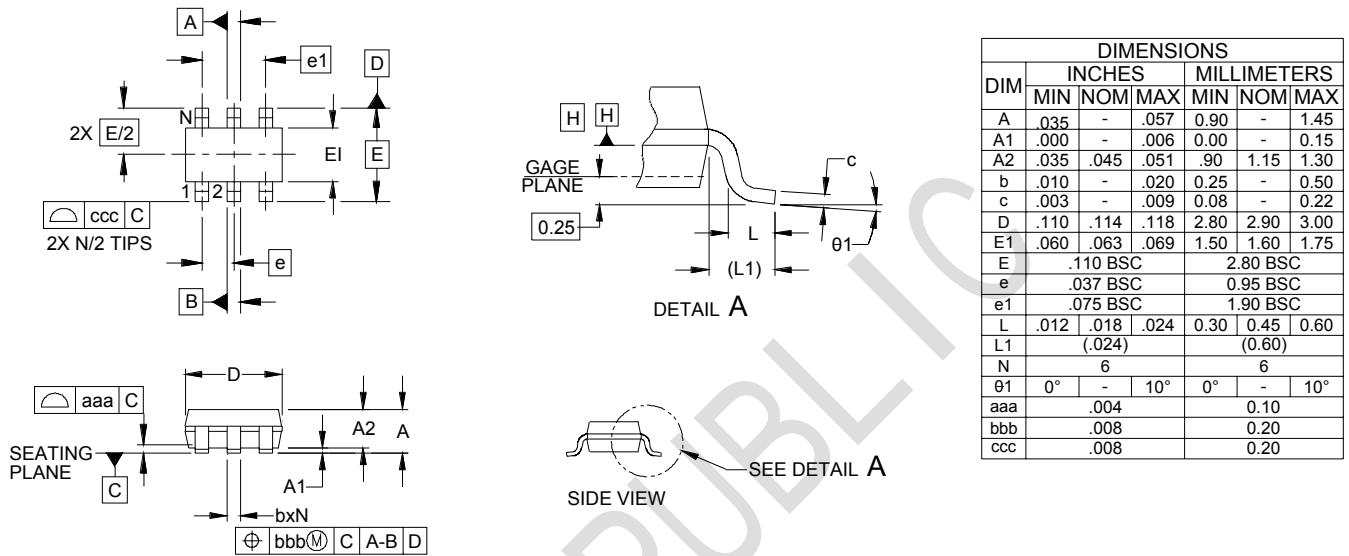
**Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)**



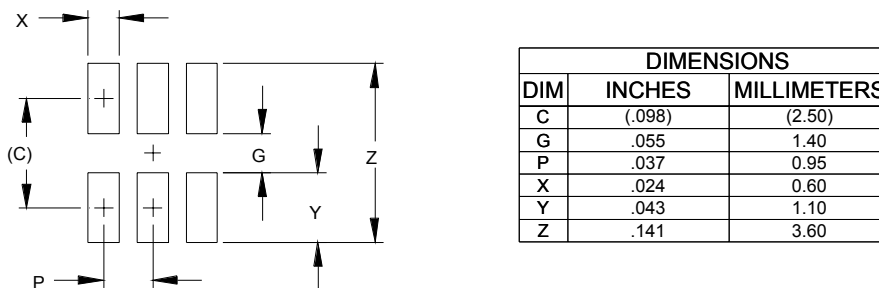
**Fig3. Power Derating Curve**



**Outline Drawing - SOT23-6**



**Land Pattern - SOT23-6**



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