

### Features

- IEC61000-4-2 ESD 15KV Air,8KV contact compliance
- Protects three data lines
- Working voltage : 5V
- Low leakage current and low clamping voltage
- Solid-state silicon avalanche technology
- Solder reflow temperature:Pure Tin-Sn,260-270°C

### Mechanical Characteristics

- Package: SOT-666(1.6mmx1.6mmx0.6mm)
- Lead Finish: Matte Tin
- UL Flammability Classification Rating 94V-0
- Pb-Free, Halogen Free, RoHS/WEEE Compliant



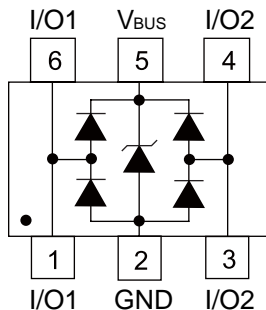
### Applications

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

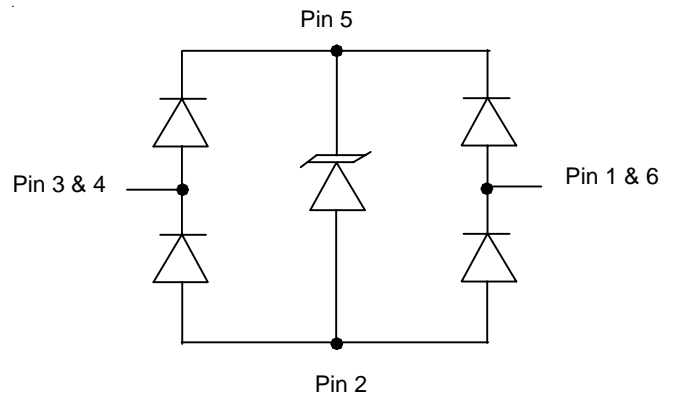
### Ordering Information

Part Number	Qty per Reel	Reel Size
TPESD0502A6	3000	7"

### Dimensions and Pin Configuration



### Circuit Diagram



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

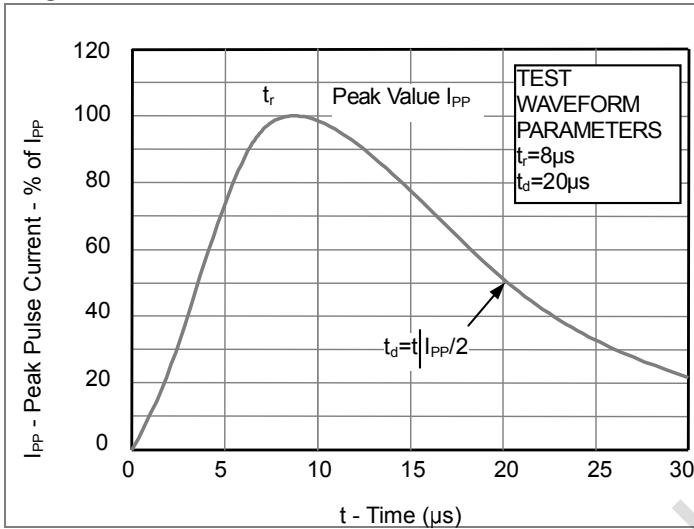
Parameter	Symbol	Value	Unit
ESD voltage (HBM contact)	$V_{\text{ESD}}$	$\pm 8$	kV
ESD voltage (AIR contact)		$\pm 15$	
Lead soldering temperature	$T_L$	260 (10 sec.)	$^\circ\text{C}$
Storage & operating temperature range	$T_{\text{STG}}, T_J$	-55~+150	$^\circ\text{C}$

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

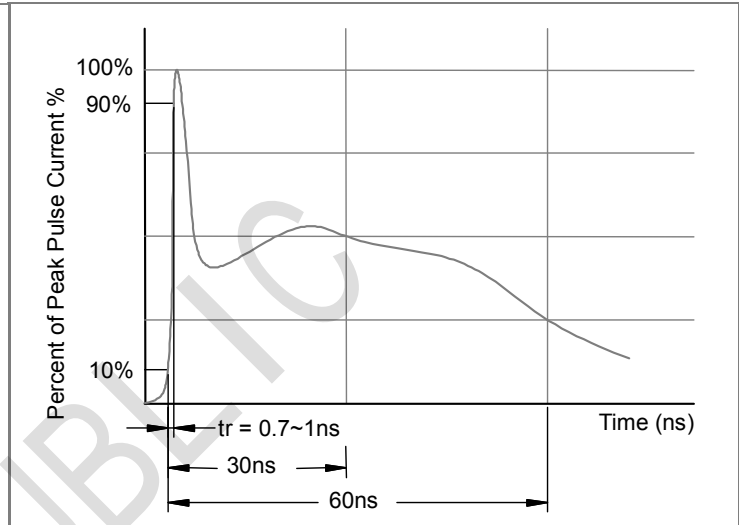
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse stand-off voltage	$V_{\text{RWM}}$				5	V
Reverse breakdown voltage	$V_{\text{BR}}$	$I_{\text{BR}}=1\text{mA}$	6			V
Reverse leakage current	$I_{\text{R}}$	$V_{\text{R}}=5.25\text{V}$ each I/O pin			1	$\mu\text{A}$
Clamping voltage ( $t_p=8/20\mu\text{s}$ )	$V_{\text{C}}$	$I_{\text{PP}}=1\text{A}$			14	V
Clamping voltage ( $t_p=8/20\mu\text{s}$ )	$V_{\text{C}}$	$I_{\text{PP}}=3\text{A}$			19	V
Off state junction capacitance	$C_J$	0Vdc, $f=1\text{MHz}$ Between I/O pins and GND		3.5		pF

**PROTECTION PRODUCTS**  
 Typical characteristics

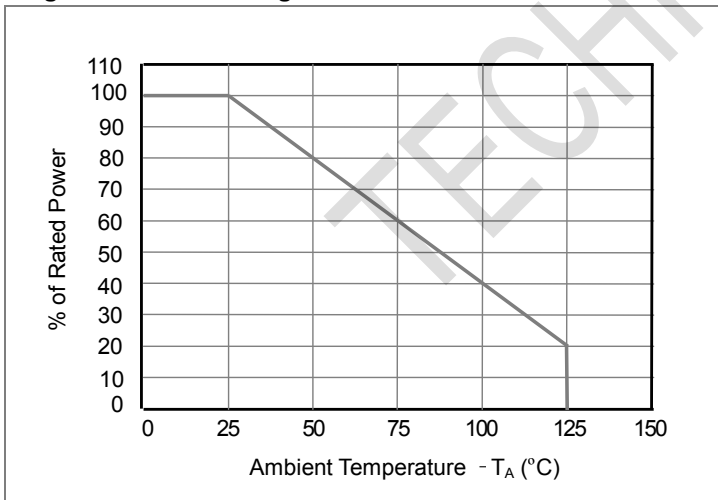
**Fig1. 8/20 $\mu$ s Pulse Waveform**



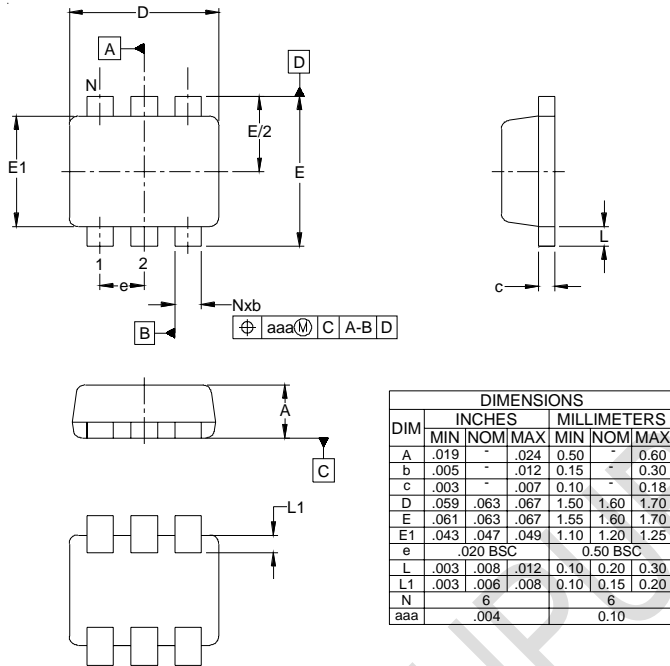
**Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)**



**Fig3. Power Derating Curve**



**Outline Drawing - SOT-666**



**Land Pattern - SOT-666**

