

## 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: SOT-143
- Lead Finish: Matte Tin
- UL Flammability Classification Rating 94V-0

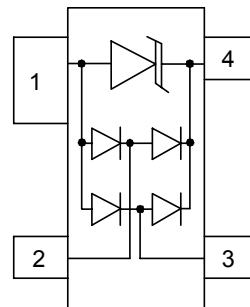
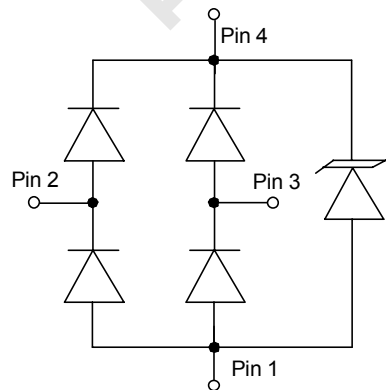
## Applications

- USB 2.0 power and data line
- Set-top box and digital TV
- Digital video interface (DVI)
- Notebook Computers
- SIM Ports
- 10/100 Ethernet

## Ordering Information

Part Number	Qty per Reel	Reel Size
TPESD0512S4	3000	7"

## Dimensions and Pin Configuration



**Absolute Maximum Ratings** (Tamb=25°C unless otherwise specified)

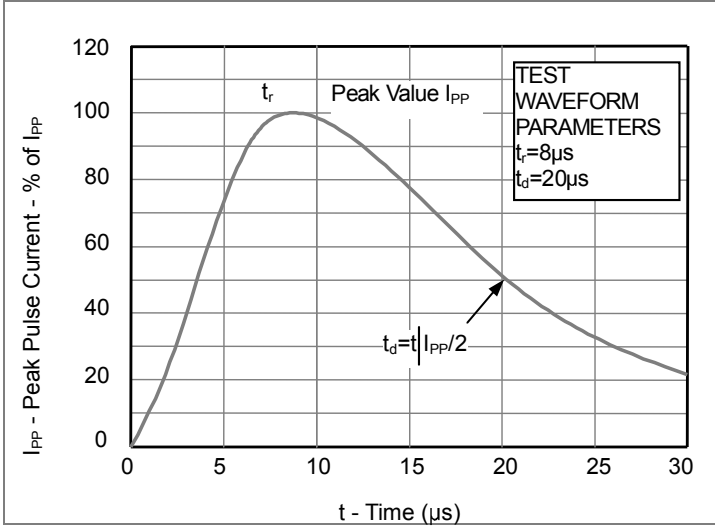
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	100	W
Peak Pulse Current (8/20μs)	Ipp	6	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	VESD	±30 ±30	kV
Operating Temperature Range	TJ	-55 to +125	°C
Storage Temperature Range	Tstg	-55 to +150	°C

**Electrical Characteristics** (TA=25°C unless otherwise specified)

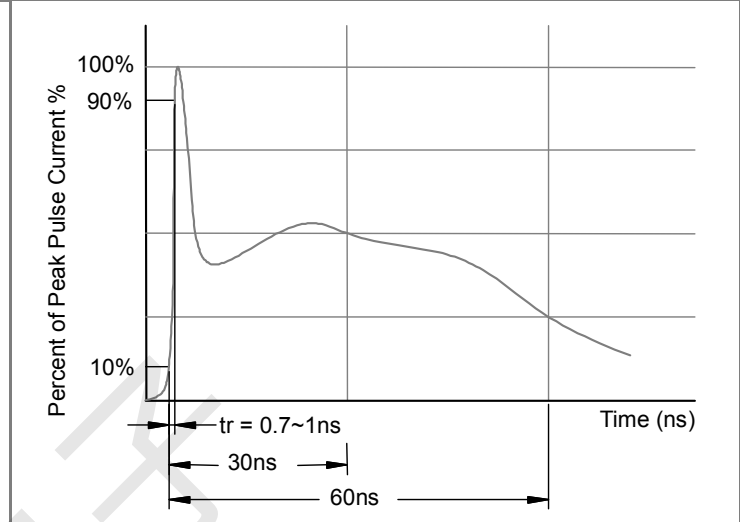
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM			5	V	
Breakdown Voltage	VBR	6.5			V	IT = 1mA
Reverse Leakage Current	IR			0.08	uA	VRWM =5V
Clamping Voltage	VC			10	V	I <sub>PP</sub> = 1A (8 x 20μs pulse)
Clamping Voltage	VC			15	V	I <sub>PP</sub> = 6A (8 x 20us pulse)
Junction Capacitance	CJ		0.8	0.9	pF	VR = 0V, f = 1MHz (IO to GND)
Junction Capacitance	CJ		0.3		pF	VR = 0V, f = 1MHz (IO to IO)

**Typical Performance Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise Specified)**

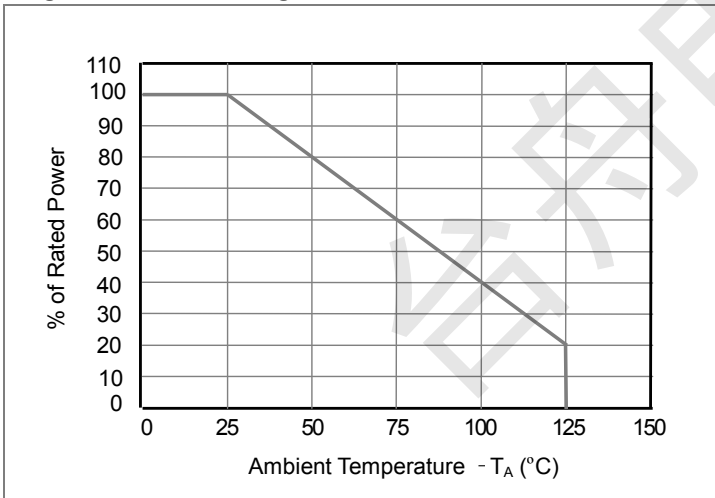
**Fig1. 8/20 $\mu\text{s}$  Pulse Waveform**



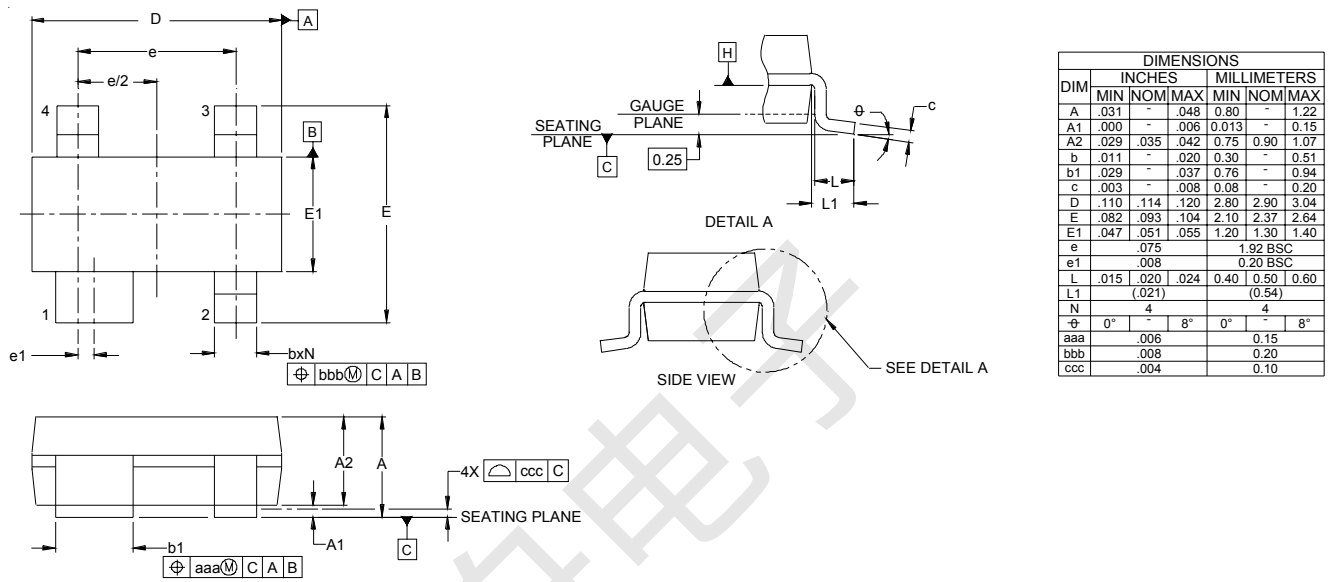
**Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)**



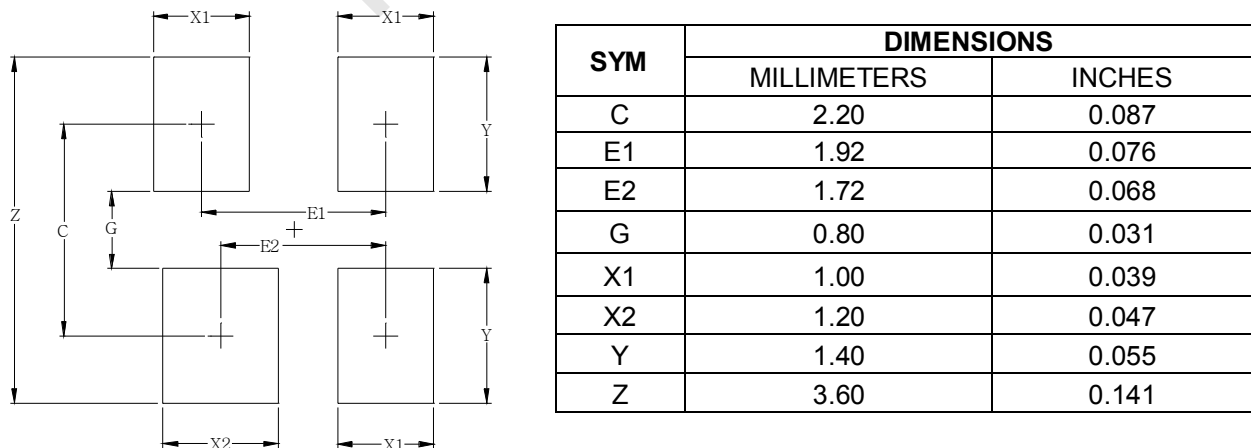
**Fig3. Power Derating Curve**



### Outline Drawing - SOT-143



### Land Pattern -SOT-143



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