

## Features

- \* 100W peak pulse power (8/20 $\mu$ s)
- \* Protects one data or power line
- \* Operating voltage: 3.3V
- \* Ultra low clamping voltage
- \* Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    - Air discharge:  $\pm 30$ kV
    - Contact discharge:  $\pm 30$ kV
  - IEC61000-4-5 (SURGE) 10A (8/20 $\mu$ s)

## Ordering Information

Part Number	Qty per Reel	Reel Size
TPESD9X3.3ST5G	8000	7"

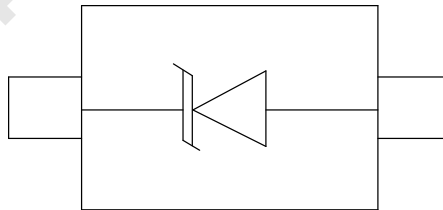
## Mechanical Characteristics

- \* Package: SOD-923(0402)
- \* Ultra low leakage: nA level
- \* Case Material: “Green” Molding Compound.
- \* UL Flammability Classification Rating 94V-0
- \* Moisture Sensitivity: Level 3 per J-STD-020

## Applications

- \* Mobile Phones and Accessories
- \* Battery Protection
- \* USB VBus
- \* Power Line Protection
- \* Hand Held Portable Applications

## Dimensions and Pin Configuration



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

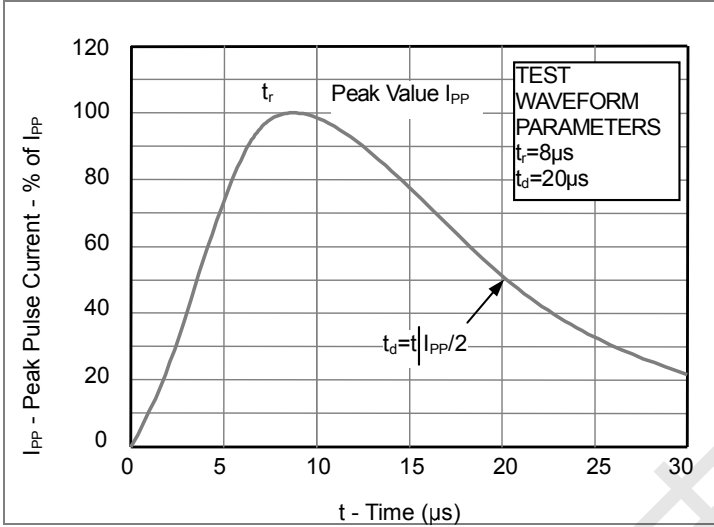
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	100	W
Peak Pulse Current (8/20μs)	IPP	10	A
ESD per IEC 61000-4-2 (Air)	VESD	±30	kV
ESD per IEC 61000-4-2 (Contact)		±30	
Operating Temperature Range	TJ	-55 to +125	°C
Storage Temperature Range	Tstg	-55 to +150	°C

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

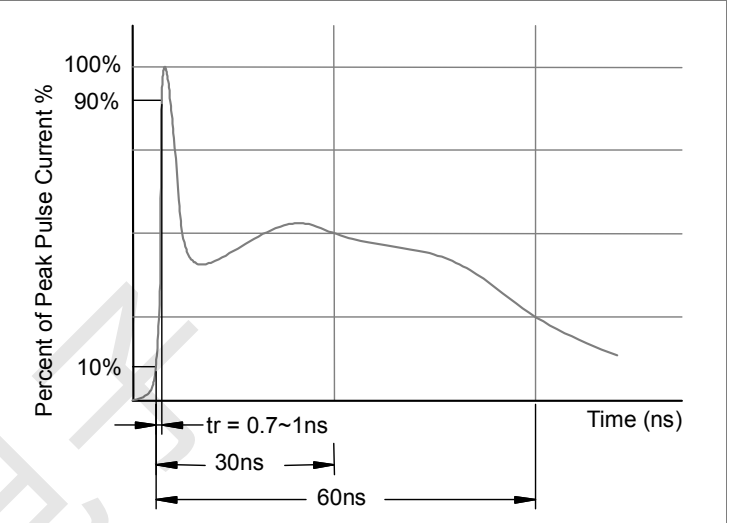
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V <sub>RWM</sub>				3.3	V
Breakdown Voltage	V <sub>BR</sub>	I <sub>T</sub> = 1mA(Pin1-Pin2)	5			V
Reverse Leakage Current	I <sub>R</sub>	V <sub>RWM</sub> = 3.3V(Pin2 -Pin1)			0.1	μA
Clamping Voltage	V <sub>C</sub>	I <sub>PP</sub> = 1A (8 x 20us pulse) (Pin1-Pin2)			8	V
Clamping Voltage	V <sub>C</sub>	I <sub>PP</sub> = 10A (8 x 20us pulse) (Pin1-Pin2)			11	V
Junction Capacitance	C <sub>J</sub>	V <sub>R</sub> = 0V, f = 1MHz			90	pF

## Characteristic Curves

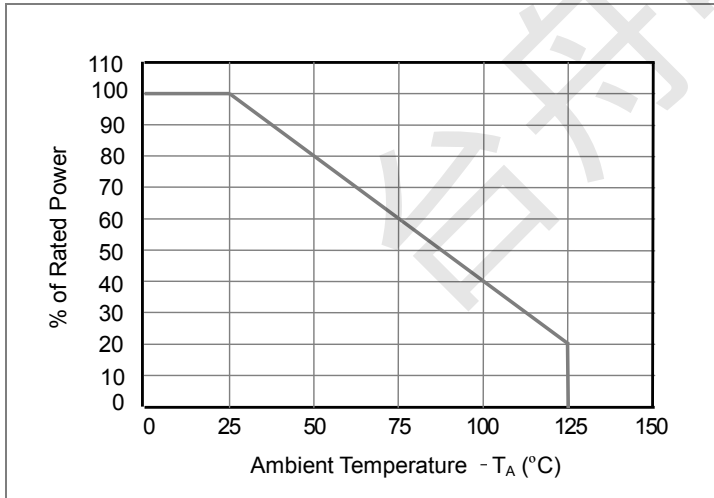
**Fig1. 8/20 $\mu$ s Pulse Waveform**



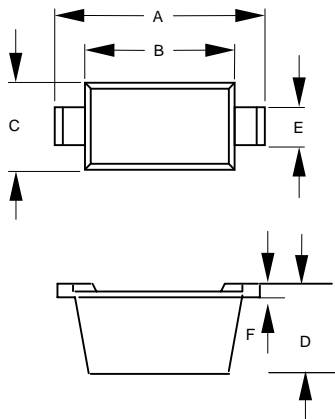
**Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)**



**Fig3. Power Derating Curve**



**Outline Drawing - SOD-923(0402)**



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	.037	.041	0.95	1.05	
B	.030	.033	0.75	0.85	
C	.022	.026	0.55	0.65	
D	.014	.017	0.36	0.43	
E	.006	.010	0.15	0.25	
F	.003	.007	0.07	0.17	

**Land Pattern - SOD-923(0402)**

