

## Features

- \* 80W peak pulse power (8/20  $\mu$ s)
- \* Protects one data or power line
- \* Operating voltage:  $\pm 3.3V$
- \* Ultra low clamping voltage
- \* Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    - Air discharge:  $\pm 30kV$
    - Contact discharge:  $\pm 30kV$
  - IEC61000-4-5 (SURGE) 8A (8/20 $\mu$ s)

## Ordering Information

Part Number	Qty per Reel	Reel Size
TPESD9B3.3ST5G	8000	7"

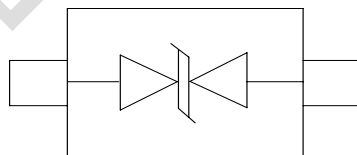
## Mechanical Characteristics

- \* 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** ( $T_{amb}=25^{\circ}\text{C}$  unless otherwise specified)

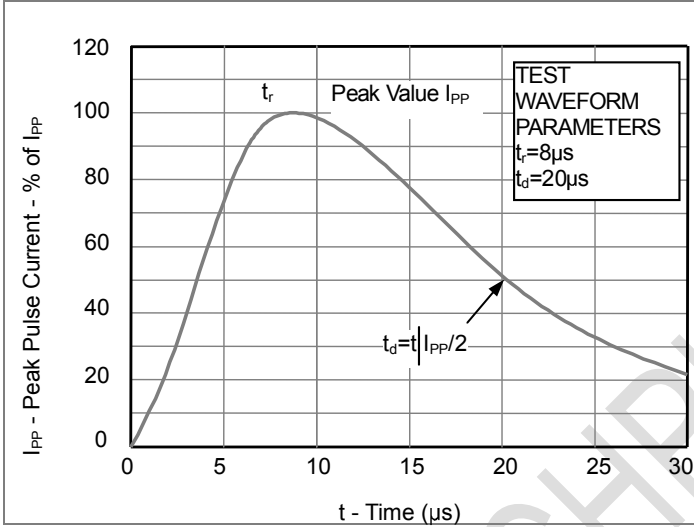
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 $\mu\text{s}$ )	Ppk	80	W
Peak Pulse Current (8/20 $\mu\text{s}$ )	IPP	8	A
ESD per IEC 61000-4-2 (Air)	VESD	$\pm 30$	kV
ESD per IEC 61000-4-2 (Contact)		$\pm 30$	
Operating Temperature Range	TJ	-55 to +125	$^{\circ}\text{C}$
Storage Temperature Range	Tstg	-55 to +150	$^{\circ}\text{C}$

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

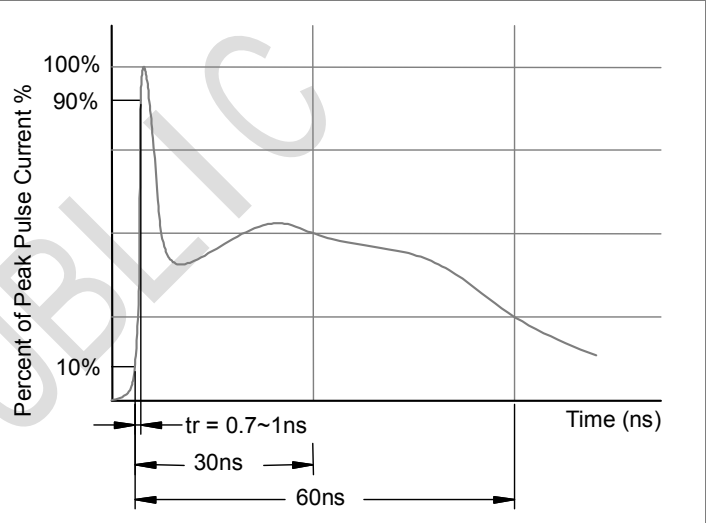
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	$V_{RWM}$				3.3	V
Breakdown Voltage	$V_{BR}$	$I_T = 1\text{mA}(\text{Pin1-Pin2})$	3.6	4	5.6	V
Reverse Leakage Current	$I_R$	$V_{RWM} = 3.3\text{V}(\text{Pin2 -Pin1})$			0.08	$\mu\text{A}$
Clamping Voltage	$V_C$	$I_{PP} = 1\text{A} (8 \times 20\mu\text{s pulse})$ (Pin1-Pin2)			7	V
Clamping Voltage	$V_C$	$I_{PP} = 8\text{A} (8 \times 20\mu\text{s pulse})$ (Pin1-Pin2)			10	V
Junction Capacitance	$C_J$	$V_R = 0\text{V}, f = 1\text{MHz}$ (Pin1-Pin2)		15		pF

## Characteristic Curves

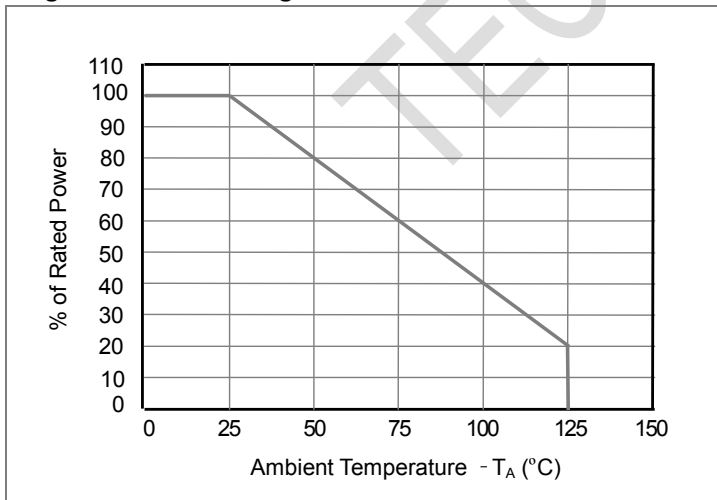
**Fig1. 8/20 $\mu$ s Pulse Waveform**



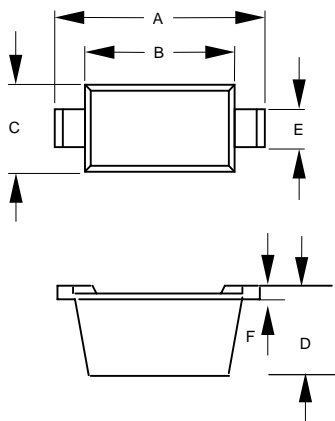
**Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)**



**Fig3. Power Derating Curve**

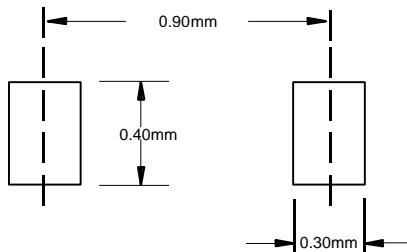


**Outline Drawing - SOD-923(0402)**



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)**



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