

Features

- * 80W peak pulse power (8/20 μ 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 μ s)

Ordering Information

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

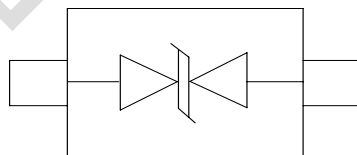
Mechanical Characteristics

- * 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 μs)	Ppk	80	W
Peak Pulse Current (8/20 μs)	IPP	8	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	$^{\circ}\text{C}$
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	μA
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 μ s Pulse Waveform

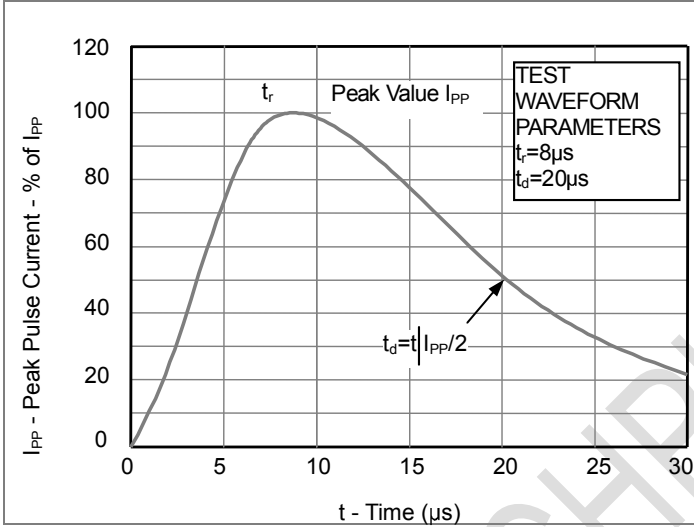


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

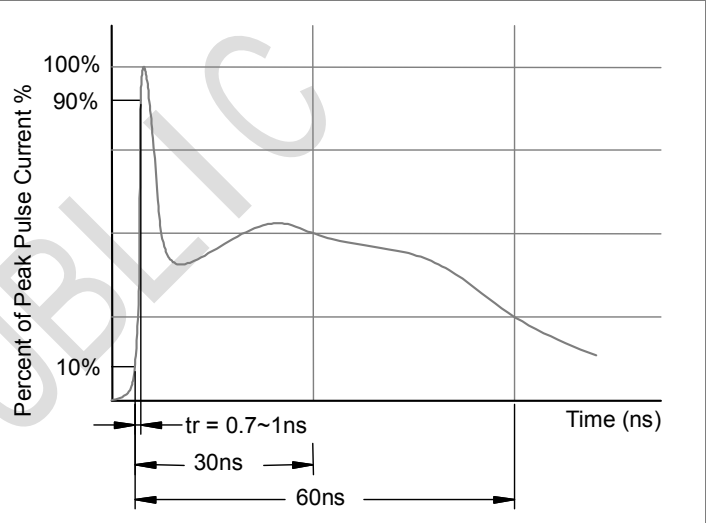
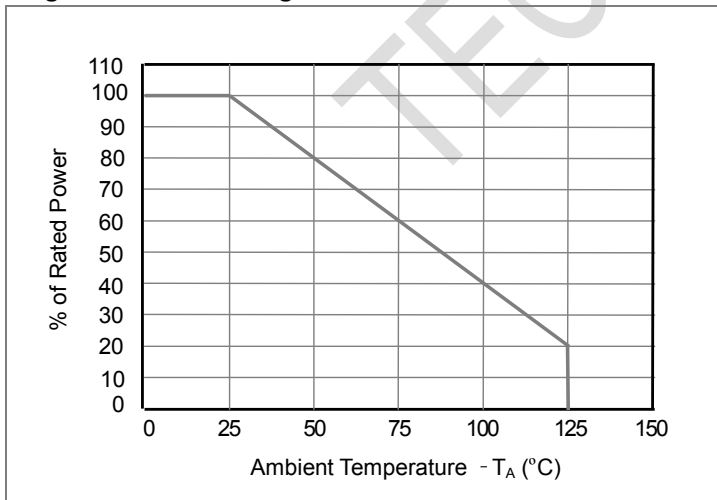
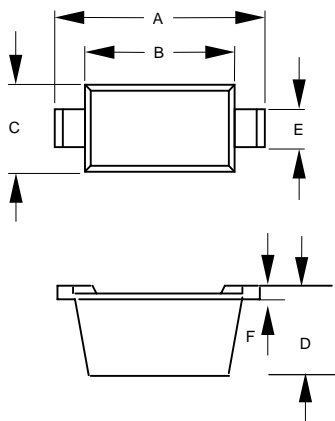


Fig3. Power Derating Curve



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)

