

Discription

The ESD9B5.0ST5G protects sensitive semiconductor components from damage or upset due to electrostatic discharge (ESD) and other voltage induced transient events. Excellent clamping capability, low leakage, low capacitance, and fast response time provide best in class protection on designs that are exposed to ESD.

It gives designer the flexibility to protect one bi-directional line in applications where arrays are not practical.



SOD-923

Features

- 80W peak pulse power per line ($t_p = 8/20\mu s$)
- SOD-923 package
- Replacement for MLV(0402)
- Bidirectional configurations
- Response time is typically $< 1ns$
- Low clamping voltage
- RoHS compliant
- Transient protection for data lines to
- IEC61000-4-2(ESD) $\pm 30KV$ (air), $\pm 30KV$ (contact);
- IEC61000-4-4 (EFT) 40A (5/50ns)



Circuit Diagram

Ordering information

Product ID	Pack	Qty(PCS)
ESD9B5.0ST5G	SOD-923	8000

Absolute Ratings ($T_{amb}=25^{\circ}C$)

Symbol	Parameter	Value	Units
P_{PP}	Peak Pulse Power ($t_p = 8/20 \mu s$)	80	W
T_L	Maximum lead temperature for soldering during 10s	260	$^{\circ}C$
T_{stg}	Storage Temperature Range	-55 to +155	$^{\circ}C$
T_{op}	Operating Temperature Range	-40 to +125	$^{\circ}C$
T_j	Maximum junction temperature	150	$^{\circ}C$
	IEC61000-4-2 (ESD)	air discharge contact discharge	± 30 ± 30
			KV

Electrical characteristics per line@25°C (unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Peak Reverse Working Voltage	V_{RWM}				5	V
Breakdown Voltage	V_{BR}	$I_t = 1mA$	5.6	6.7	7.8	V
Reverse Leakage Current	I_R	$V_{RWM} = 5V$ $T=25^{\circ}C$			1.0	μA
Maximum Reverse Peak Pulse Current	I_{PP}			5		A
Clamping Voltage	V_C	$I_{PP}=1A$			8	V
Clamping Voltage	V_C	$I_{PP}=3A$			13	V
Clamping Voltage	V_C	$I_{PP}=5A$			15	V
Junction Capacitance	C_j	$V_R=0V$ $f = 1MHz$		12	15	pF

Typical Characteristics

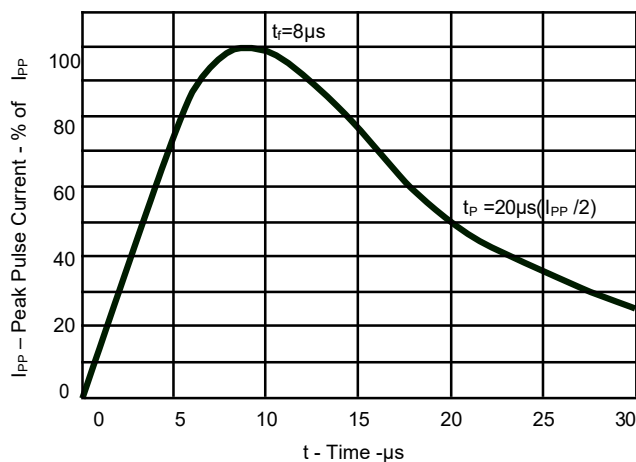


Fig 1. Pulse Waveform

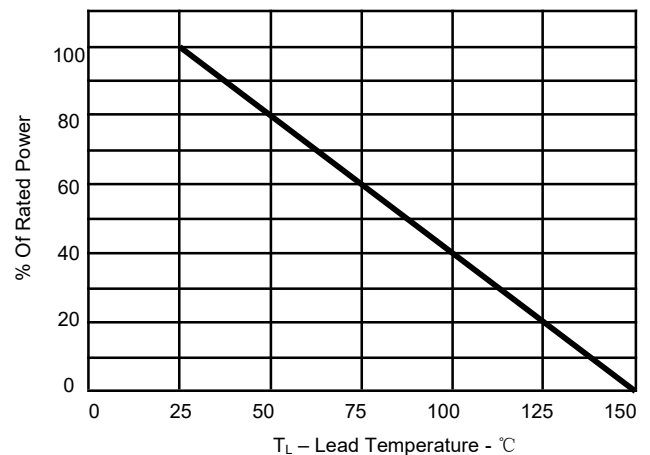
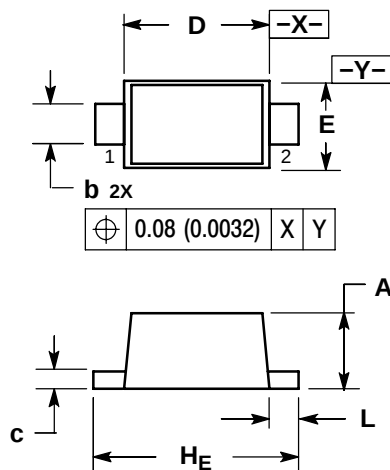


Fig 2. Power Derating Curve

SOD-923

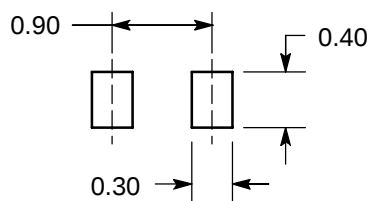


NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.

DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.34	0.37	0.40	0.013	0.015	0.016
b	0.15	0.20	0.25	0.006	0.008	0.010
c	0.07	0.12	0.17	0.003	0.005	0.007
D	0.75	0.80	0.85	0.030	0.031	0.033
E	0.55	0.60	0.65	0.022	0.024	0.026
H _E	0.95	1.00	1.05	0.037	0.039	0.041
L	0.05	0.10	0.15	0.002	0.004	0.006

SOLDERING FOOTPRINT*



DIMENSIONS: MILLIMETERS