



Description

The ESDLC5V0D9 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.

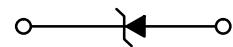
It gives designer the flexibility to protect one unidirectional line in applications where arrays are not practical.



SOD-923

Features

- ★ Ultra Low Capacitance 0.5 pF
- ★ Low Clamping Voltage
- ★ Small Body Outline Dimensions:
- ★ Stand-off Voltage: 5 V
- ★ Low Leakage
- ★ Response Time is Typically < 1.0 ns
- ★ IEC61000-4-2 Level 4 ESD Protection
- ★ This is a Pb-Free Device



Circuit Diagram

Ordering Information

Product ID	Pack	Qty(PCS)
ESDLC5V0D9	SOD-923	8000

Absolute Ratings(Tamb = 25°C)

Symbol	Parameter	Value	Units
P _{PP}	Peak Pulse Power (t _p = 8/20μs)	90	W
T _L	Maximum lead temperature for soldering during 10s	260	°C
T _{stg}	Storage Temperature Range	-55 to +150	°C
T _{op}	Operating Temperature Range	-40 to +125	°C
T _j	Maximum junction temperature	150	°C
	IEC61000-4-2 (ESD)	air discharge contact discharge	± 15 ± 10
			KV



Electrical Characteristics

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V_{RWM}	Reverse Working Voltage				5.0	V
V_{BR}	Reverse Breakdown Voltage	$I_T = 1\text{mA}$	5.4			V
I_R	Reverse Leakage Current	$V_{RWM} = 5\text{V}$			1.0	μA
V_C	Clamping Voltage	$I_{RWM} = 1\text{A}, t_p = 8/20\mu\text{s}$		15		V
		$I_{RWM} = 4\text{A}, t_p = 8/20\mu\text{s}$		20		V
C_J	Junction Capacitance	$V_R = 0\text{V}, f = 1\text{MHz}$		60		pF

Typical Characteristics

IEC 61000-4-2 Spec.

Level	Test Voltage (kV)	First Peak Current (A)	Current at 30 ns (A)	Current at 60 ns (A)
1	2	7.5	4	2
2	4	15	8	4
3	6	22.5	12	6
4	8	30	16	8

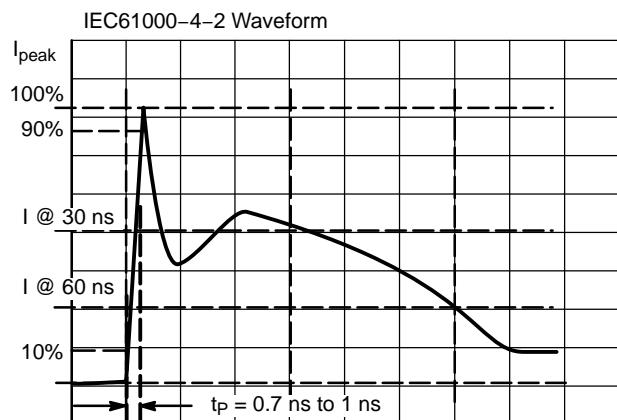


Figure 1. IEC61000-4-2 Spec

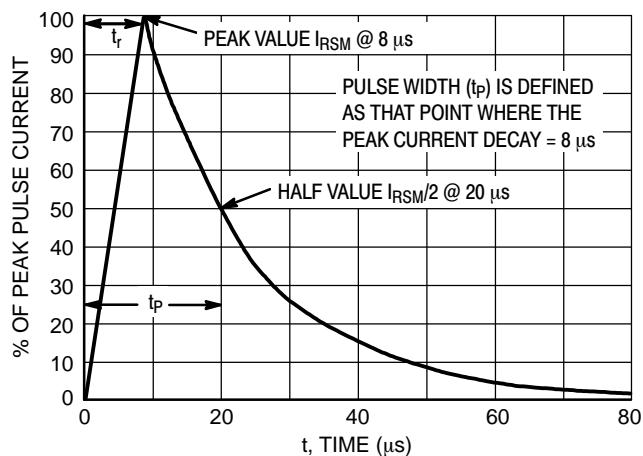
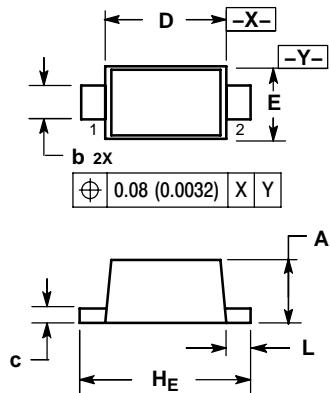


Figure 2. 8 X 20 μs Pulse Waveform



SOD-923 Package Information

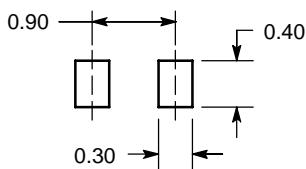


NOTES:

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



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