HESDNC5VB1BL-B
ESD PROTECTION DIODE

Discription

The HESDNC5VB1BL-B 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 = 8/20μs)
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
EC61000-4-2(ESD) ±30KV(air), ±30KV(contact);
IEC61000-4-4 (EFT) 40A (5/50ns)

Circuit Diagram

Ordering information

Product ID	Pack	Qty(PCS)
HESDNC5VB1BL-B	SOD-923	8000

Absolute Ratings (T_{amb}=25°C)

Symbol	Parameter	Value	Units
P_{PP}	Peak Pulse Power (t_p = 8/20 μ s)	80	W
T_L	Maximum lead temperature for soldering during 10s	260	°C
T_{stg}	Storage Temperature Range	-55 to +155	°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	±30 ±30	KV

Electrical characteristics per line@25℃ (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℃			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

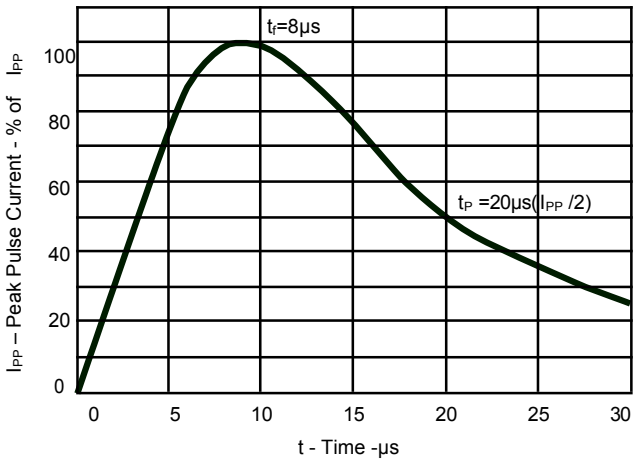


Fig 1.Pulse Waveform

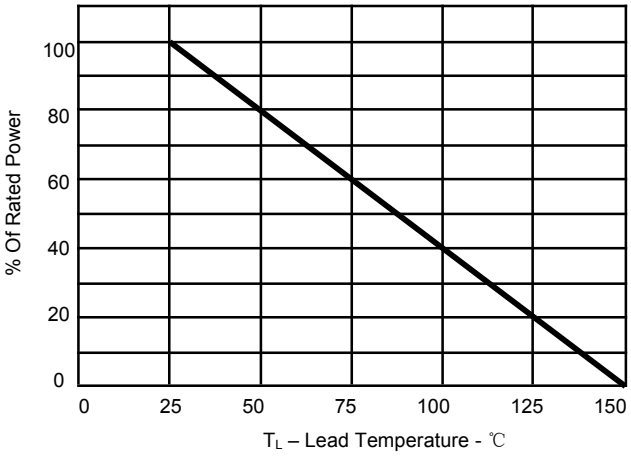
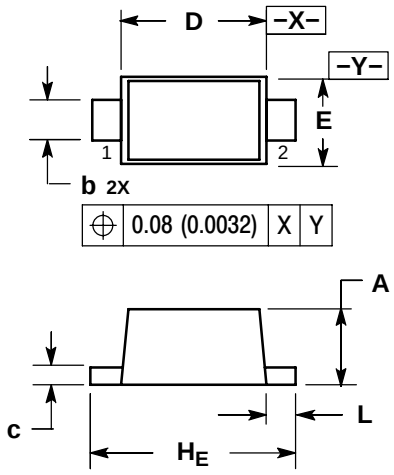


Fig 2.Power Derating Curve

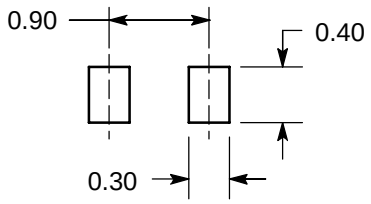
SOD−923



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.

	MILLIMETERS			INCHES		
DIM	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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