HPESDNC3D24VBL1
ESD PROTECTION DIODE

Discription

The HPESDNC3D24VBL1 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-323

Features

- ★ Small Body Outline Dimensions
- ★ Low Body Height
- ★ Peak Power up to 360 Watts @ 8 x 20 _s Pulse
- ★ Low Leakage current
- ★ Response Time is Typically < 1 ns
- ★ IEC61000−4−2 Level 4 ESD Protection
- ★ IEC61000−4−4 Level 4 EFT Protection



Circuit Diagram

Orderingin formation

Product ID	Pack	Qty(PCS)
HPESDNC3D24VBL1	SOD-323	3000

Absolute Ratings(Tamb = 25°C)

Symbol	Parameter	Value	Units
P_{PP}	Peak Pulse Power (t_p = 8/20 μ s)	360	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	±20 ±15	KV
	IEC61000-4-4 (EFT)	40	A
	ESD Voltage Per Human Body Model	16	KV

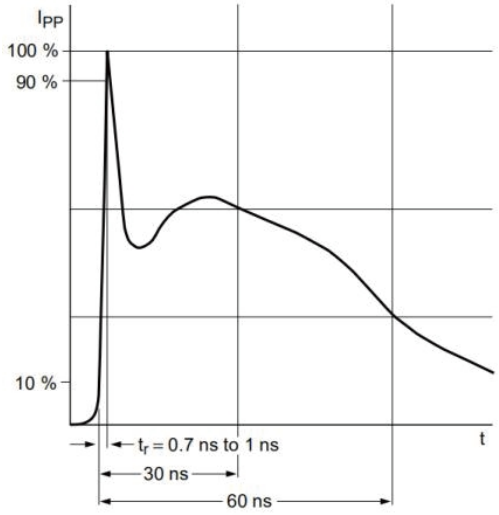
Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

V_{RWM} (V)	I_R(uA) @ V_{RWM}	V_{BR} (V)@ I_T (Note 1)	I_T	V_C (V) @ I_{PP}=1 A*	V_C (V) @ Max I_{PP}*	I_{PP} (A)*	P_{PK} (W)*	C (pF)
Max	**Max**	**Min**	**mA**	**Max**	**Max**	**Max**	**Max**	**Typ**
24	0.1	26.5	1	36	60	6	360	15

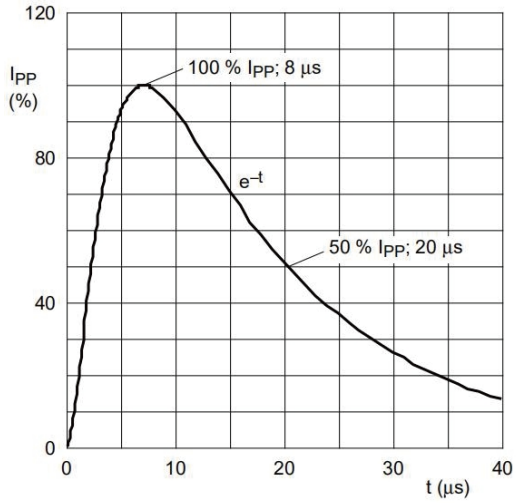
*Surge current waveform per Figure 1.

1. V_{BR} is measured with a pluse test current I_T at an ambient temperature of 25℃.

Typical Characteristics

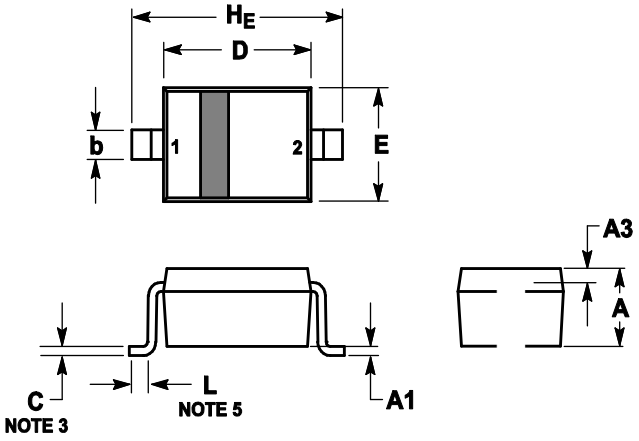


IEC61000−4−2 Waveform



IEC 61000-4-5 Waveform(8/20µs pulse)

OUTLINE AND DIMENSIONS

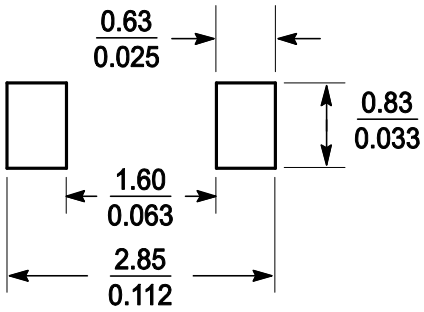


Notes:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.

DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.8	0.9	1	0.031	0.035	0.04
A1	0	0.05	0.1	0	0.002	0.004
A3	0.15REF			0.006REF		
b	0.25	0.32	0.4	0.01	0.012	0.016
C	0.089	0.12	0.177	0.003	0.005	0.007
D	1.6	1.7	1.8	0.062	0.066	0.07
E	1.15	1.25	1.35	0.045	0.049	0.053
L	0.08			0.003		
H_E	2.3	2.5	2.7	0.09	0.098	0.105

SOLDERING FOOTPRINT



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C3M0040120D MUR1040FCT S4D15120H 1SMB5930BT3G DSC06065 MJD127G SG3525-HXY
BD237STU DMPH6250SQ-13 E4D10120A HBAS40-05LT1G IDL10G65C5XUMA2 ISL28233FUZ-T7
PTVSHC3D5VU SS5150 2N7002-HXY S3D08065E SGM3798YG/TR 1SMB5934B C6D06065Q-TR
CH440G IRLML2244TRPBF-HXY ISL28133FHZ-T7 AOD403-HXY C4D08120E-TR MSC040SMA120B4
TLV74318PDBVR-HXY TPD1E0B04DPYR TPS7A0533PDBZR-HXY Si2323DS-T1-E3-HXY