ESD3V3D5B
ESD PROTECTION DIODE

Discription

The ESD3V3D5B 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-523

Features

- ★ Small Body Outline Dimensions
- ★ Low Body Height
- ★ Peak Power up to 100 Watts @ 8 x 20 _s Pulse
- ★ Low Leakage current
- ★ Response Time is Typically < 1 ns
- ★ ESD Rating of Class 3 (> 16 kV) per Human Body Model
- ★ IEC61000−4−2 Level 4 ESD Protection
- ★ IEC61000−4−4 Level 4 EFT Protection



Circuit Diagram

Orderingin formation

Product ID	Pack	Qty(PCS)
ESD3V3D5B	SOD-523	3000

Absolute Ratings(Tamb = 25°C)

Symbol	Parameter	Value	Units
P_{PP}	Peak Pulse Power (t_p = 8/20 μ s)	100	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	±15 ±8	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.

Device	V_{RWM} (V)	I_R(uA) @ V_{RWM}	V_{BR} (V)@ I_T (Note 1)		I_T	V_C (V) @ Max I_{PP}*	I_{PP} (A)*	P_{PK} (W)*	C (pF)
	Max	Max	Min	Max	mA	Max	Max	Max	Typ
ESD3V3D5B	3.3	1	5.6	7.8	1.0	11	9	100	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

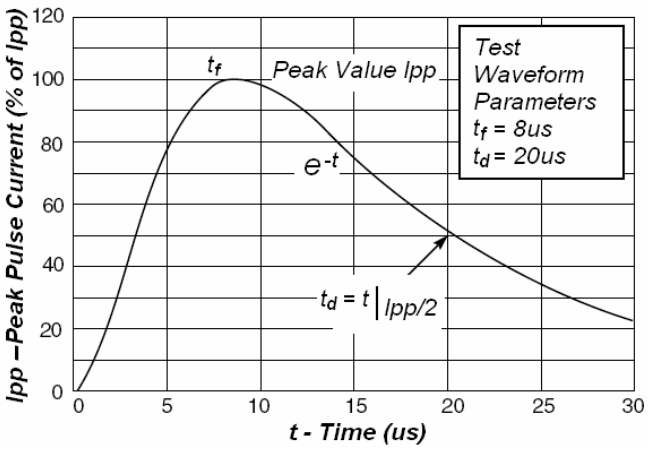


Fig1. Pulse Waveform

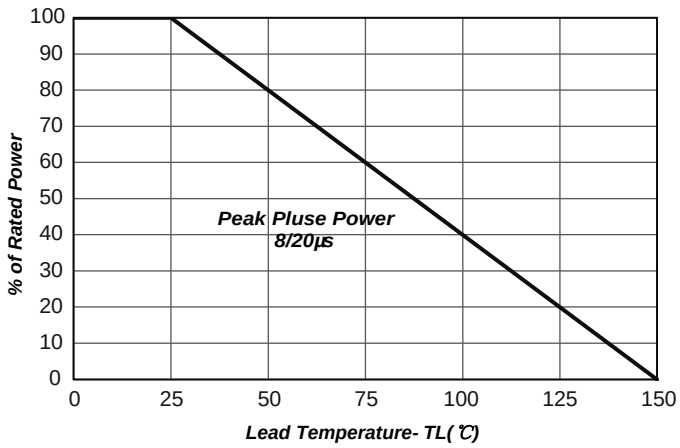
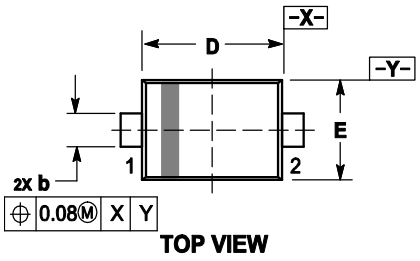
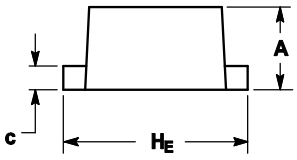


Fig2.Power Derating

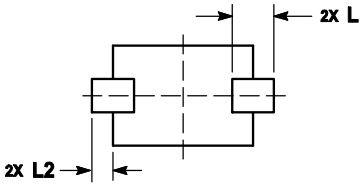
Outline And Dimensions



TOP VIEW



SIDE VIEW



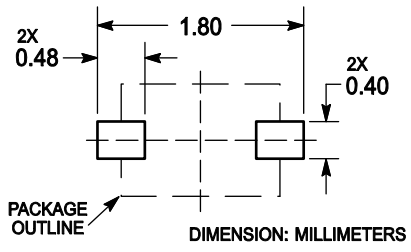
BOTTOM VIEW

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.

	MILLIMETERS			INCHES		
DIM	MIN	NOM	MAX	MIN	NOM	MAX
A	0.50	0.60	0.70	0.020	0.024	0.028
b	0.25	0.30	0.35	0.010	0.012	0.014
c	0.07	0.14	0.20	0.003	0.006	0.008
D	1.10	1.20	1.30	0.043	0.047	0.051
E	0.70	0.80	0.90	0.028	0.031	0.035
H_E	1.50	1.60	1.70	0.059	0.063	0.067
L	0.30 REF			0.012 REF		
L_2	0.15	0.20	0.25	0.006	0.008	0.010

Soledering Footprint



DIMENSION: MILLIMETERS

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