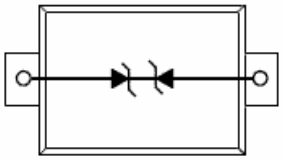
Transient Voltage Suppressors for ESD Protection

FEATURES:

- Small Body Outline Dimensions
- Low Body Height
- Peak Power up to 40 Watts @ 8 x 20 μs 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 & Pin Configuration:

SOD-923



DEVICE MARKING AND ORDERING INFORMATION

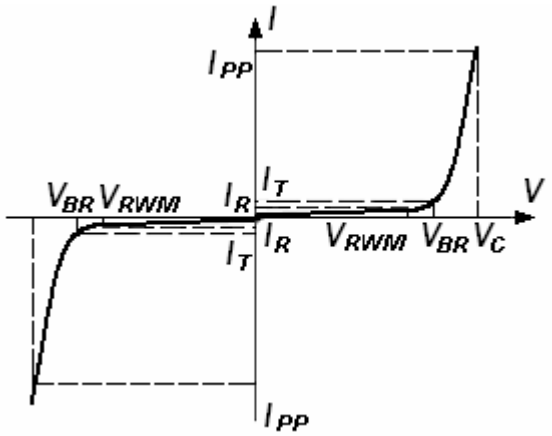
Device	Marking	Shipping
TESDN3V31BD92	B	8000/Tape&Reel

Absolute Ratings (T_{amb}=25°C)

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

Electrical Parameter

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
I_T	Test Current
V_{BR}	Breakdown Voltage @ I_T



Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.VF = 0.9V at IF = 10mA

Device	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	Typ	Max	Max	Max	Typ
TESDN3V31BD92	3.3	1	5.0	1.0	12	16	3	40	20

*Surge current waveform per Figure 1.

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

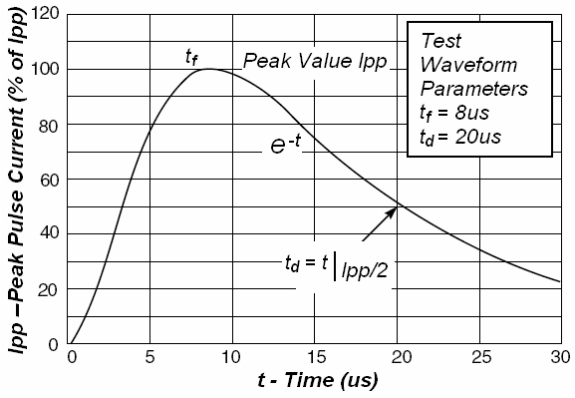


Fig1. Pulse Waveform

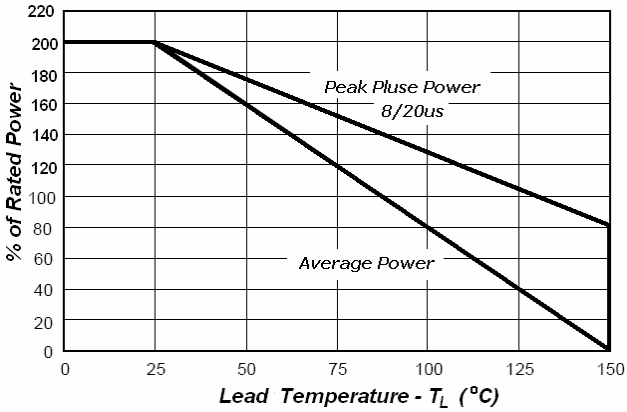


Fig2.Power Derating Curve

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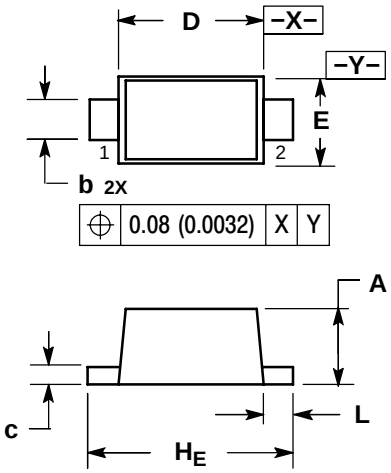
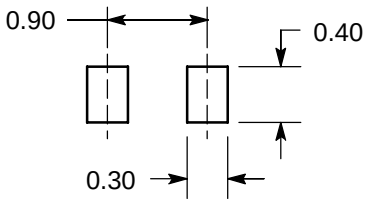


NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.

	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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