



BIDIRECTIONAL TVS DIODE FOR ESD PROTECTION

DESCRIPTION

The SDISEMI Model ESD5V0W100D3CAR device provides ESD, EFT protection for the external ports of portable electronic devices such as cell phones, handheld electronics and personal computers.

The ESD protection provided by the component enables a data port to withstand a minimum +/-30 KV Contact +/-30 KV Air Discharge per the ESD method specified in IEC 61000-4-2. The device is available in a SOD-323 package intended to be mounted directly onto an FR4 printed circuit board.

The SDISEMI device will meet IEC 61000-4-2 (ESD), IEC 61000-4-4 (EFT)

APPLICATIONS

- ◆ Cellular Handsets and Accessories
- ◆ High Speed I/O Lines
- ◆ Notebooks & Handhelds
- ◆ Peripherals
- ◆ Personal Digital Assistants (PDA)
- ◆ Servers, Notebook, and Desktop PC

IEC COMPATIBILITY

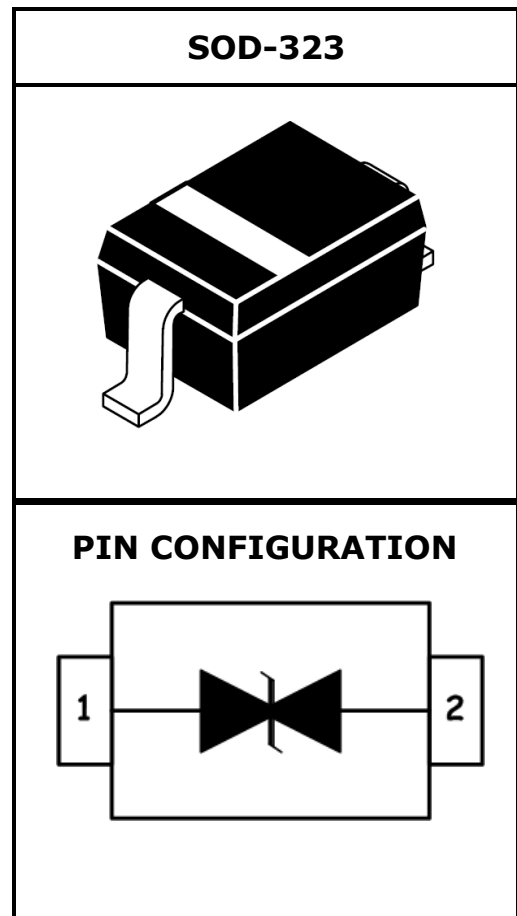
- ◆ IEC61000-4-2 (ESD) ±30kV (air), ±30kV (contact)
- ◆ IEC61000-4-4 (EFT) 40A (5/50 ns)

FEATURES

- ◆ 100 Watts Peak Pulse Power per Line (tp=8/20µs)
- ◆ Protects One I/O Line (Bidirection)
- ◆ Low Clamping Voltage
- ◆ Working Voltages : 5.0V
- ◆ Low Leakage Current

MECHANICAL CHARACTERISTICS

- ◆ SOD-323 Package
- ◆ Molding Compound Flammability Rating : UL 94V-O
- ◆ Weight 4.7 Milligrams (Approximate)
- ◆ Quantity Per Reel : 3,000pcs
- ◆ Reel Size : 7 inch
- ◆ Lead Finish : Lead Free





DEVICE CHARACTERISTICS

MAXIMUM RATINGS (@ 25°C Unless Otherwise Specified)			
PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power (tp=8/20µs waveform)	P _{PP}	100	Watts
Lead Soldering Temperature	T _L	260 (10 sec.)	°C
Operating Temperature Range	T _J	-55 ~ 150	°C
Storage Temperature Range	T _{STG}	-55 ~ 150	°C

ELECTRICAL CHARACTERISTICS PER LINE (@ 25°C Unless Otherwise Specified)									
PART NUMBER	DEVICE MARKING	V _{RWM}	V _B	I _T	V _C	V _C		I _R	C _T
		(V) (max.)	(V) (min.)	(mA)	@1A (max.)	(max.)	(@A)	(µA) (max.)	(pF) (typ.)
ESD5V0W100D3CAR	5CW	5	6	1	12	17.5	2	1	30

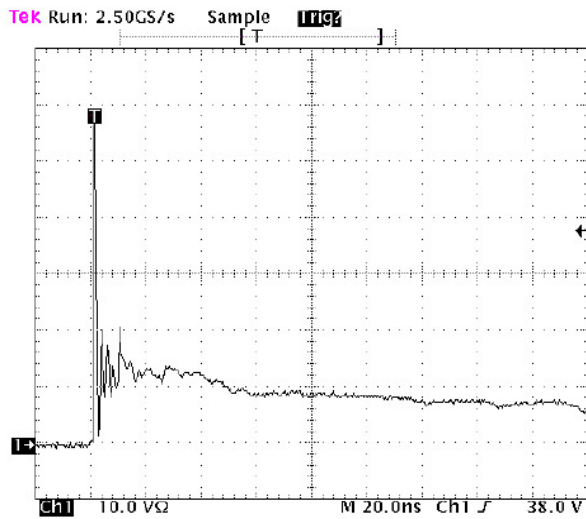


Figure 1. ESD Clamping Voltage Screenshot Positive 8 kV contact per IEC 61000-4-2

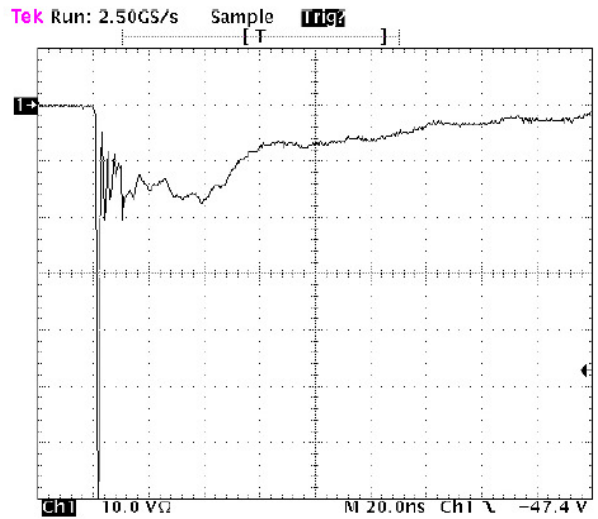
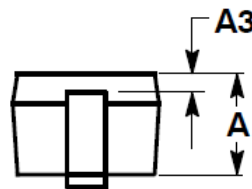
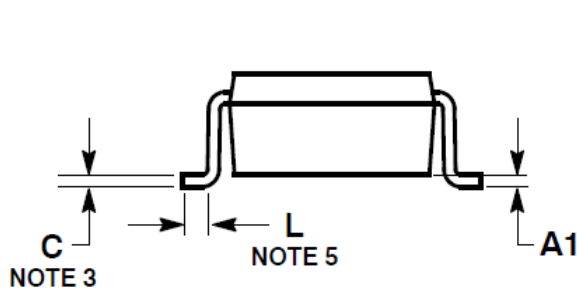
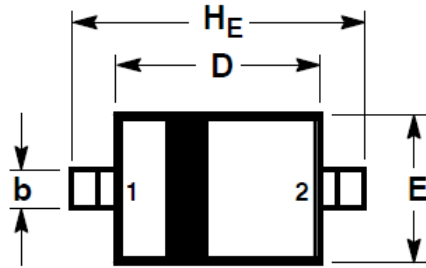


Figure 2. ESD Clamping Voltage Screenshot Negative 8 kV contact per IEC 61000-4-2



SOD-323 PACKAGE OUTLINE & DIMENSIONS

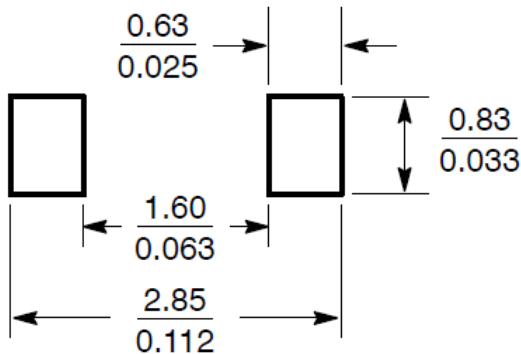


NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. LEAD THICKNESS SPECIFIED PER L/F DRAWING WITH SOLDER PLATING.
4. DIMENSIONS A AND B DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.
5. DIMENSION L IS MEASURED FROM END OF RADIUS.

DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.80	0.90	1.00	0.031	0.035	0.040
A1	0.00	0.05	0.10	0.000	0.002	0.004
A3	0.15 REF			0.006 REF		
b	0.25	0.32	0.4	0.010	0.012	0.016
C	0.089	0.12	0.177	0.003	0.005	0.007
D	1.60	1.70	1.80	0.062	0.066	0.070
E	1.15	1.25	1.35	0.045	0.049	0.053
L	0.08			0.003		
HE	2.30	2.50	2.70	0.090	0.098	0.105

*** SOLDERING FOOTPRINT**





SDISEMI

ESDxVxW100D3CAR

Company information

COMPANY PROFILE

In business more than 8 years, SDISEMI is a privately-held company located in TAIWAN, that offers a product line of transient voltage suppressors (TVS); steering diode TVS arrays and other surge suppressor component products. These TVS devices protect electronic systems from the effects of lightning, electrostatic discharge (ESD), nuclear electromagnetic pulses (NEMP), inductive switching and EMI / RFI. SDISEMI also offers high performance interface and mosfet, varistor chip bead

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