



# BIDIRECTIONAL TVS DIODE

## DESCRIPTION

The SDISEMI Model ESDxVxW100D6CAR 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 the ESD method specified in IEC 61000-4-2. The device measures 1.0 mm x 0.5 mm and is available in a 0402 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

- ◆ Cell Phone Handsets and Accessories
- ◆ Microprocessor based equipment
- ◆ Personal Digital Assistants (PDA's)
- ◆ Notebooks, Desktops, and Servers
- ◆ Portable Instrumentation
- ◆ Peripherals
- ◆ Pagers

## IEC COMPATIBILITY

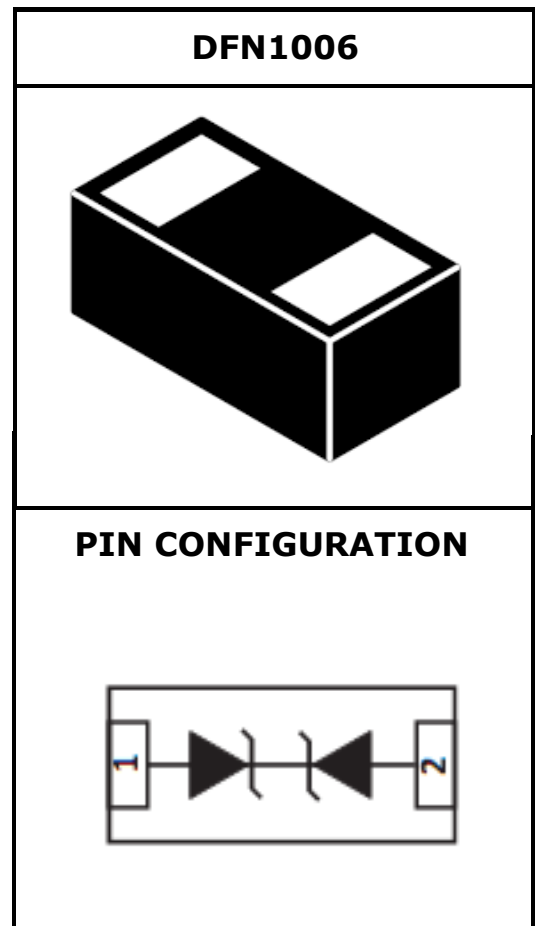
- ◆ IEC61000-4-2 (ESD) ±30kV (air), ±30kV (contact)
- ◆ IEC61000-4-4 (EFT) 40A (5/50 ns)

## FEATURES

- ◆ 100 Watts Peak Pulse Power per Line (tp=8/20µs)
- ◆ Protects one bidirectional I/O line
- ◆ Low clamping voltage
- ◆ Working voltages : 3.3V, 5V and 8V
- ◆ Low leakage current

## MECHANICAL CHARACTERISTICS

- ◆ DFN1006 (1.0x0.6x0.5mm) Package
- ◆ Molding Compound Flammability Rating : UL 94V-O
- ◆ Weight 0.5 Milligrams (Approximate)
- ◆ Quantity Per Reel : 5,000pcs
- ◆ Reel Size : 7 inch
- ◆ Lead Finish : Lead Free
- ◆ Reach compliant





**DEVICE CHARACTERISTICS**

**MAXIMUM RATINGS (@ 25°C Unless Otherwise Specified)**

PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power (tp=8/20µs waveform)	P <sub>PP</sub>	100	Watts
Lead Soldering Temperature	T <sub>L</sub>	260 (10 sec.)	°C
Operating Temperature Range	T <sub>J</sub>	-55 ~ 150	°C
Storage Temperature Range	T <sub>STG</sub>	-55 ~ 150	°C

**ELECTRICAL CHARACTERISTICS PER LINE (@ 25°C Unless Otherwise Specified)**

PART NUMBER	DEVICE MARKING	V <sub>RWM</sub>	V <sub>B</sub>	I <sub>T</sub>	V <sub>C</sub>	V <sub>C</sub>		I <sub>R</sub>	C <sub>T</sub>
		(V) (max.)	(V) (min.)	(mA)	@1A (max.)	(max.)	(@A)	(µA) (max.)	(pF) (typ.)
ESD3V3W100D6CAR	T	3.3	3.5	1	7	12	8	1	10
ESD5V0W100D6CAR	M	5	6	1	9.8	20	5	1	10
ESD8V0W100D6CAR	N	8	8.5	1	17.5	25	3	1	7

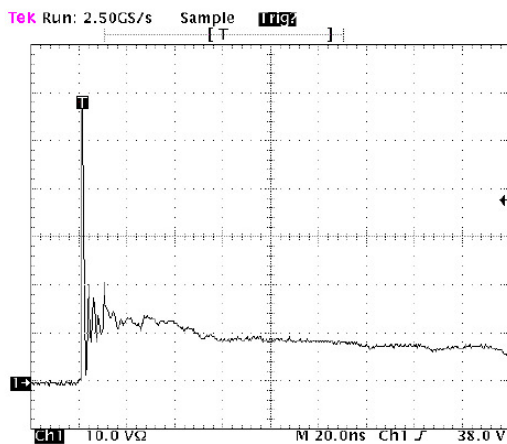


Figure 1. ESD Clamping Voltage Screenshot  
Positive 8 kV contact per IEC 61000-4-2

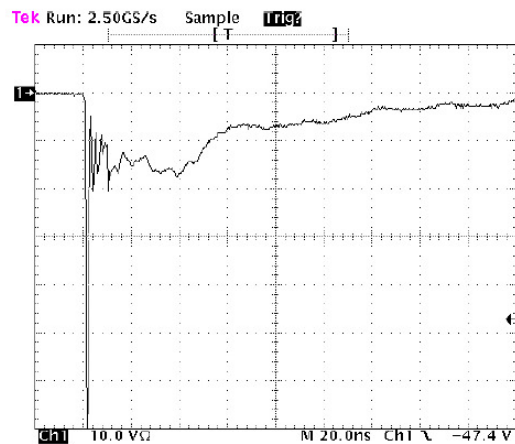
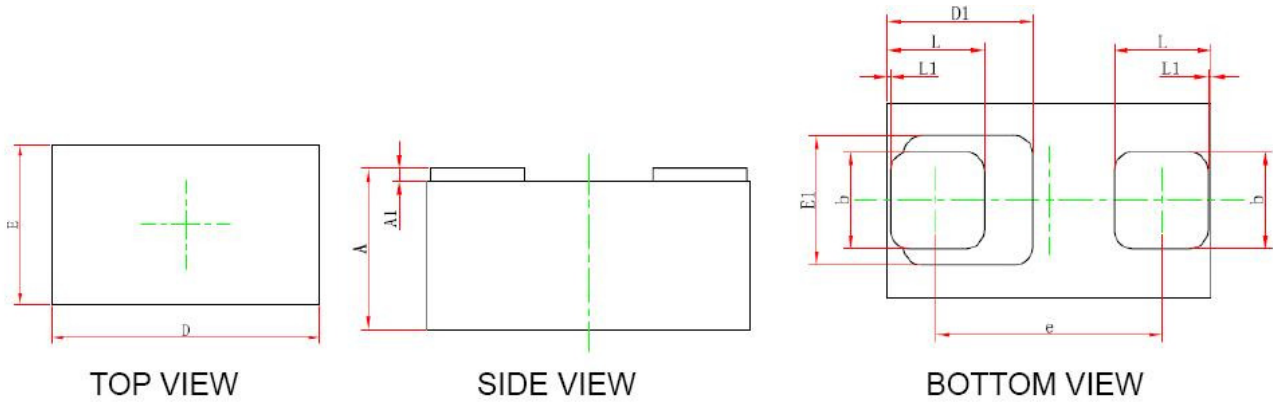


Figure 2. ESD Clamping Voltage Screenshot  
Negative 8 kV contact per IEC 61000-4-2



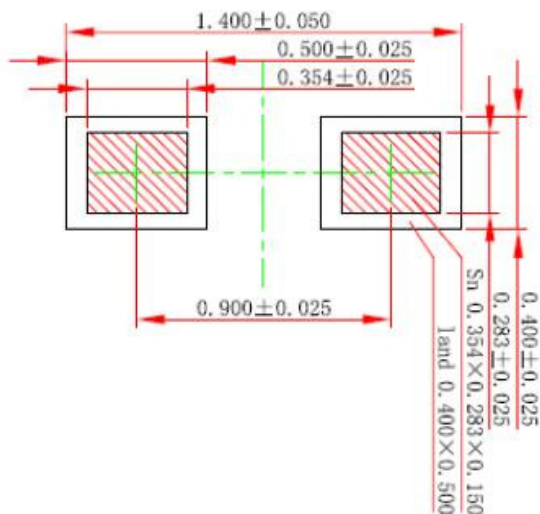
**DNF1006 PACKAGE OUTLINE & DIMENSIONS**



**PACKAGE DIMENSIONS**

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.450	0.550	0.018	0.022
A1	0.010	0.070	0.000	0.003
D	0.950	1.050	0.037	0.041
E	0.550	0.650	0.022	0.026
D1	0.450REF.		0.018REF.	
E1	0.400REF.		0.016REF.	
b	0.275	0.325	0.011	0.013
e	0.675	0.725	0.027	0.029
L	0.275	0.325	0.011	0.013
L1	0.010REF.		0.000REF.	

**\* SOLDERING FOOTPRINT**





**SDISEMI**

ESDxVxW100D6CAR

## 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

#### Distributor:

China  
RuiWei electronic Technology corporation Ltd  
Tel:0760-85708089  
Fax:0760-85708189  
MB:13825236947  
Contact:Fairy  
Mail:nejin@126.com  
Address:No 202 LangWang Street MingZhong Town ZhongShan

#### Contact us

Please E-mail to your corresponding area, we will use the fastest time and contact you:

#### About sales:

The asia-pacific business: Sales\_asia@sdisemi.com  
International business: sales@sdisemi.com

#### About technology:

Technical support: support@sdisemi.com

URL: [www.sdisemi.com](http://www.sdisemi.com)