



LOW CAPACITANCE TVS DIODE ARRAY

GENERAL INFO

The SDISEMI Model uESD5V0W300T4R device provides ESD, EFT and surge 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 +/-8 KV Contact +/-15 KV Air Discharge the ESD test method specified in IEC 61000-4-2. The device measures 2.80 mm x 1.20 mm and is available in a SOT-143 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) and IEC 61000-4-5 (Surge) requirements.

IEC COMPATIBILITY

- ◆ IEC61000-4-2 (ESD) $\pm 15\text{kV}$ (air), $\pm 8\text{kV}$ (contact)
- ◆ IEC61000-4-4 (EFT) 40A (5/50 μs)
- ◆ IEC61000-4-5 (Lightning) 5A (8/20 μs)

FEATURES

- ◆ 300 Watts Peak Pulse Power per Line ($t_p=8/20\mu\text{s}$)
- ◆ Protects two I/O lines
- ◆ Low clamping voltage
- ◆ Working voltages : 5V
- ◆ Low leakage current
- ◆ With surge protection(2.5A)

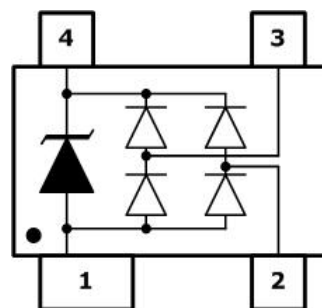
MECHANICAL CHARACTERISTICS

- ◆ JEDEC SOT-143 Package
- ◆ Molding Compound Flammability Rating : UL 94V-O
- ◆ Weight 10 Milligrams (Approximate)
- ◆ Quantity Per Reel : 3,000pcs
- ◆ Reel Size : 7 inch
- ◆ Lead Finish : Lead Free

APPLICATIONS

- ◆ USB Power & Data Line Protection
- ◆ Ethernet 10BaseT
- ◆ I²C Bus Protection
- ◆ Video Line Protection
- ◆ T1/E1 secondary IC Side Protection
- ◆ Microcontroller Input Protection
- ◆ ISDN S/T Interface
- ◆ WAN/LAN Equipment

PIN CONFIGURATION





DEVICE CHARACTERISTICS

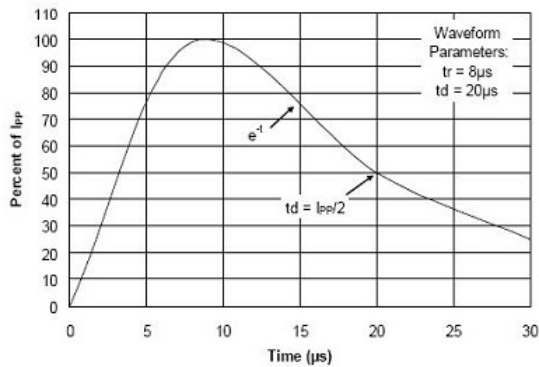
MAXIMUM RATINGS (@ 25°C Unless Otherwise Specified)

PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power (tp=8/20μs waveform)	P _{PP}	300	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

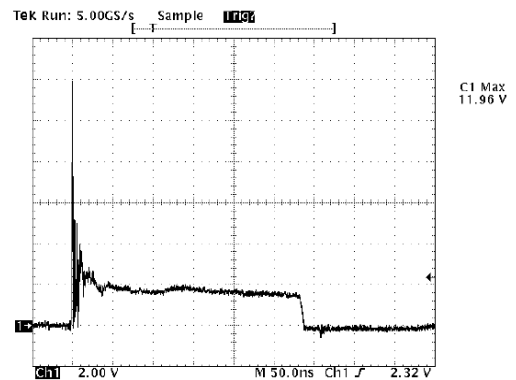
ELECTRICAL CHARACTERISTICS PER LINE (@ 25°C Unless Otherwise Specified)

PART NUMBER	DEVICE MARKING	V _{RWM} (V) (max.)	V _B (V) (min.)	I _T (mA)	V _C @1A (max.)	V _C (max.) (@A)		I _R (μA) (max.)	C _T (pF) (max.)
uESD5V0W300T4R	SL3	5	6	1	9.8	21	2.5	5	1.2

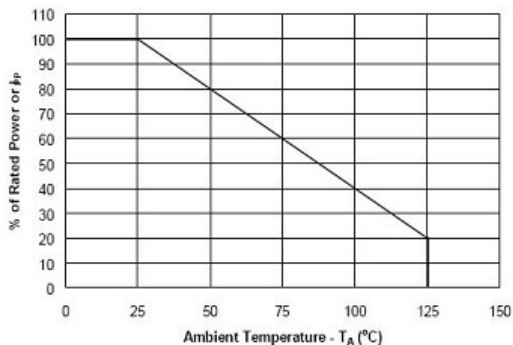
Pulse Waveform



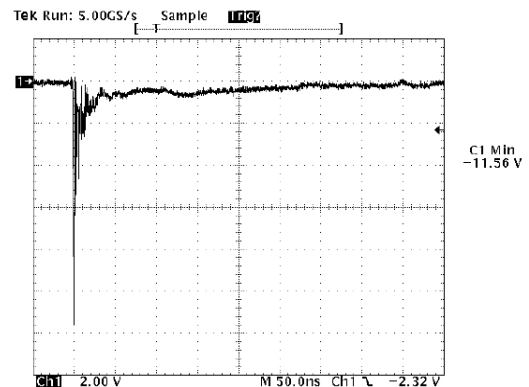
ESD Clamping
(8kV Contact per IEC 61000-4-2)



Power Derating Curve

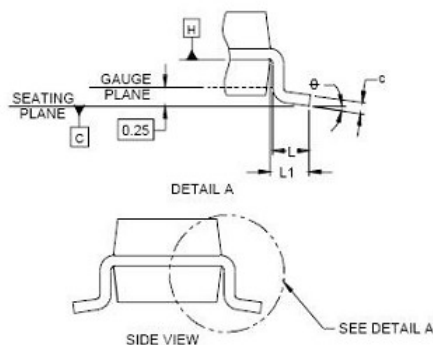
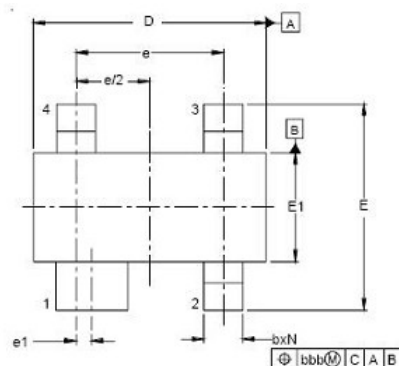


ESD Clamping
(-8kV Contact per IEC 61000-4-2)

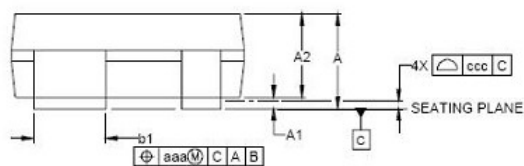




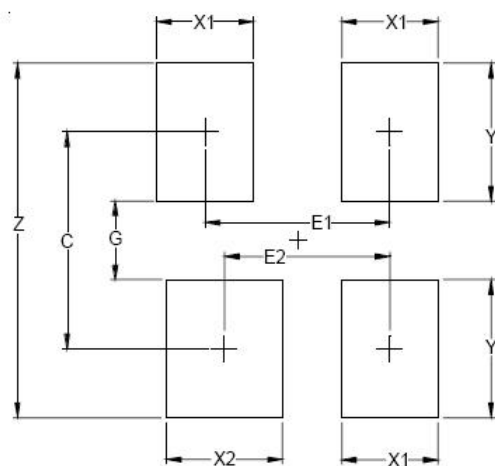
SOT-143 PACKAGE OUTLINE & DIMENSIONS



DIM	INCHES			MILLIMETERS		
	MIN	NOM	MAX	MIN	NOM	MAX
A	.031	-	.048	0.80	-	1.22
A1	.000	-	.005	0.013	-	0.15
A2	.029	.035	.042	0.75	0.90	1.07
b	.011	-	.020	0.30	-	0.51
b1	.029	-	.037	0.76	-	0.94
c	.003	-	.005	0.08	-	0.20
D	.110	.114	.120	2.80	2.90	3.04
E	.082	.093	.104	2.10	2.37	2.64
E1	.047	.051	.055	1.20	1.30	1.40
e	.075	-	-	1.92 BSC	-	-
e1	.008	-	-	0.20 BSC	-	-
L	.015	.020	.024	0.40	0.50	0.60
L1	(.021)	-	-	(0.54)	-	-
N	4	-	-	-	-	-
Φ	0°	-	8°	0°	-	8°
aaa	.005	-	-	0.15	-	-
bbb	.005	-	-	0.20	-	-
ccc	.004	-	-	0.10	-	-



* SOLDERING FOOTPRINT



DIM	DIMENSIONS	
	INCHES	MILLIMETERS
C	(.087)	(2.20)
E1	.076	1.92
E2	.068	1.72
G	.031	0.80
X1	.039	1.00
X2	.047	1.20
Y	.055	1.40
Z	.141	3.60