SES1510N5VU2C075H

ULTRA LOW CAPACITANCE TVS DIODE ARRAY

APPLICATIONS

- USB 3.0 / USB 3.1 Interfaces
- HDMI 1.4 / HDMI 2.0 Interfaces
- Video Graphics Cards
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Industrial Controls
- Peripherals

IEC COMPATIBILITY

- IEC61000-4-2 (ESD) ±17kV (air), ±15kV (contact)
- IEC61000-4-4 (EFT) 40A (5/50ηs)
- IEC61000-4-5 (LIGHTING) 2.5A (8/20μs)

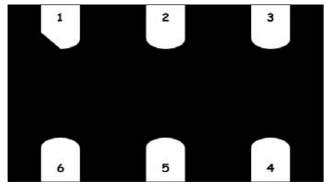
FEATURES

- 75 Watts Peak Pulse Power per Line (tp=8/20μs)
- Protects Two High Speed Lines
- Low Clamping Voltage
- RoHS Compliant

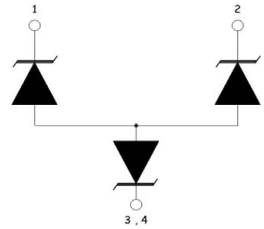
MECHANICAL CHARACTERISTICS

- DFN1510TP6 (1.5x1.0mm) Package
- Molding Compound Flammability Rating : UL 94V-O
- Weight 3.0 Millgrams (Approximate)
- Quantity Per Reel : 3,000pcs
- Reel Size : 7 inch
- Lead Finish : Lead Free

DFN1510TP6



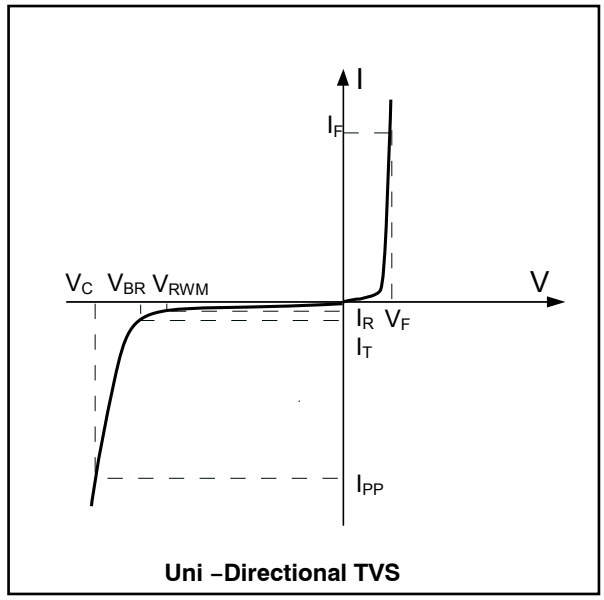
PIN CONFIGURATION



Absolute maximum rating@25℃			
Rating	Symbol	Value	Unit
Peak Pulse Power (tP = 8/20μS)	Ppp	75	W
Lead Solder Temperature −Maximum (10 Seconds)	TL	260	°C
Operating Junction Temperature Range	TJ	−55 to +150	°C
Storage Temperature Range	Tstg	−55 to +150	°C

ELECTRICAL CHARACTERISTICS
(T_A = 25°C unless otherwise noted)

Symbol	Parameter
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
P_{PP}	Peak Pulse Power
C_J	Junction Capacitance
I_F	Forward Current
V_F	Forward Voltage @ I_F



Uni –Directional TVS

ELECTRICAL CHARACTERISTICS PER LINE (@ 25℃ Unless Otherwise Specified)

PART NUMBER	DEVICE MARKING	V_{RWM} (V) (max.)	V_B (V) (min.)	I_T (mA)	V_C (8/20us) @1A (max.)	V_C (8/20us) (max.)	(@A)	I_R (μA) (max.)	C_T (pF) (typ.)
SES1510N5VU2C075H	UL12	5	6	1	18	30	2.5	1	0.2

Typical Characteristics

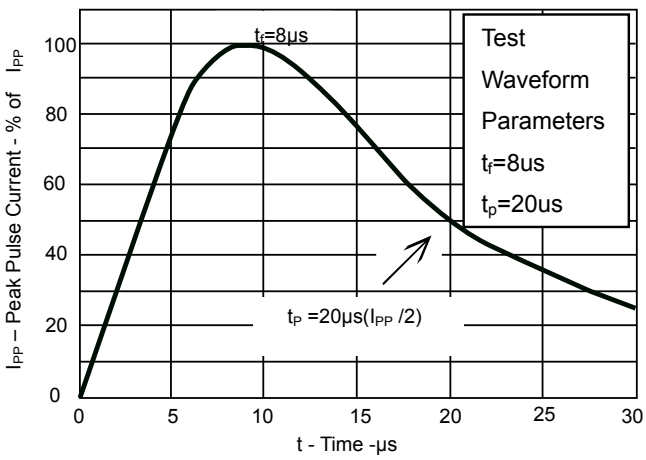


Fig 1.Pulse Waveform

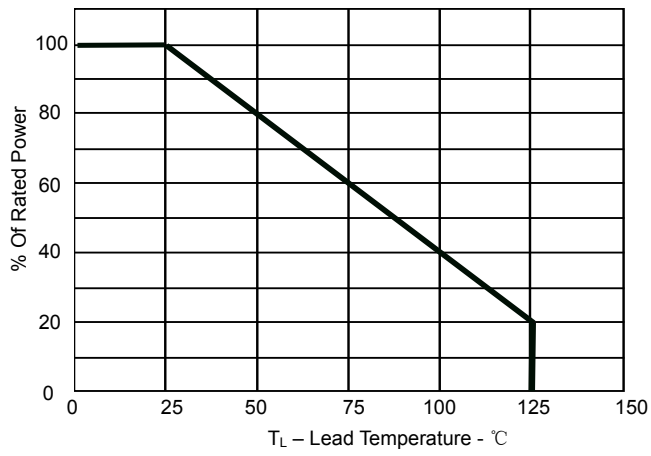


Fig 2.Power Derating Curve

LAYOUT DIAGRAM INFORMATION

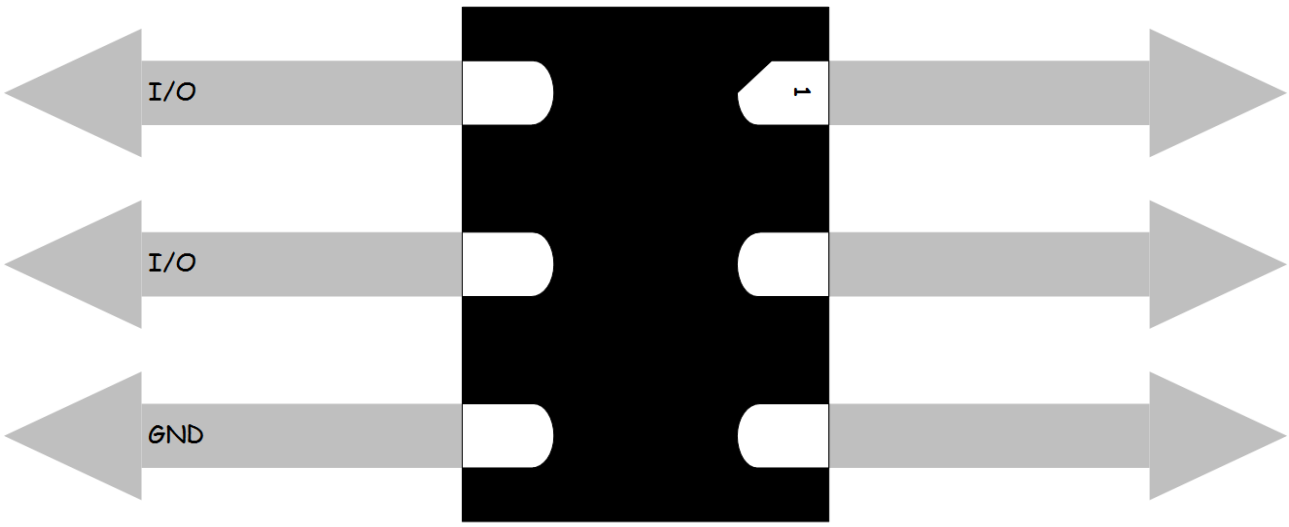


Figure 1. Protected Two I/O Lines with GND

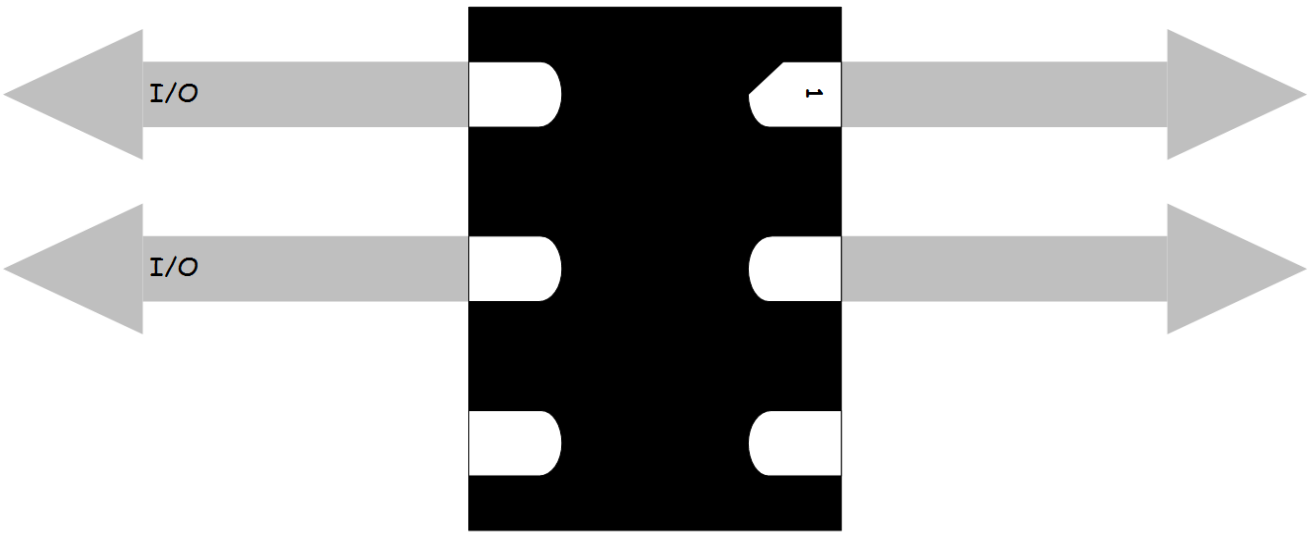
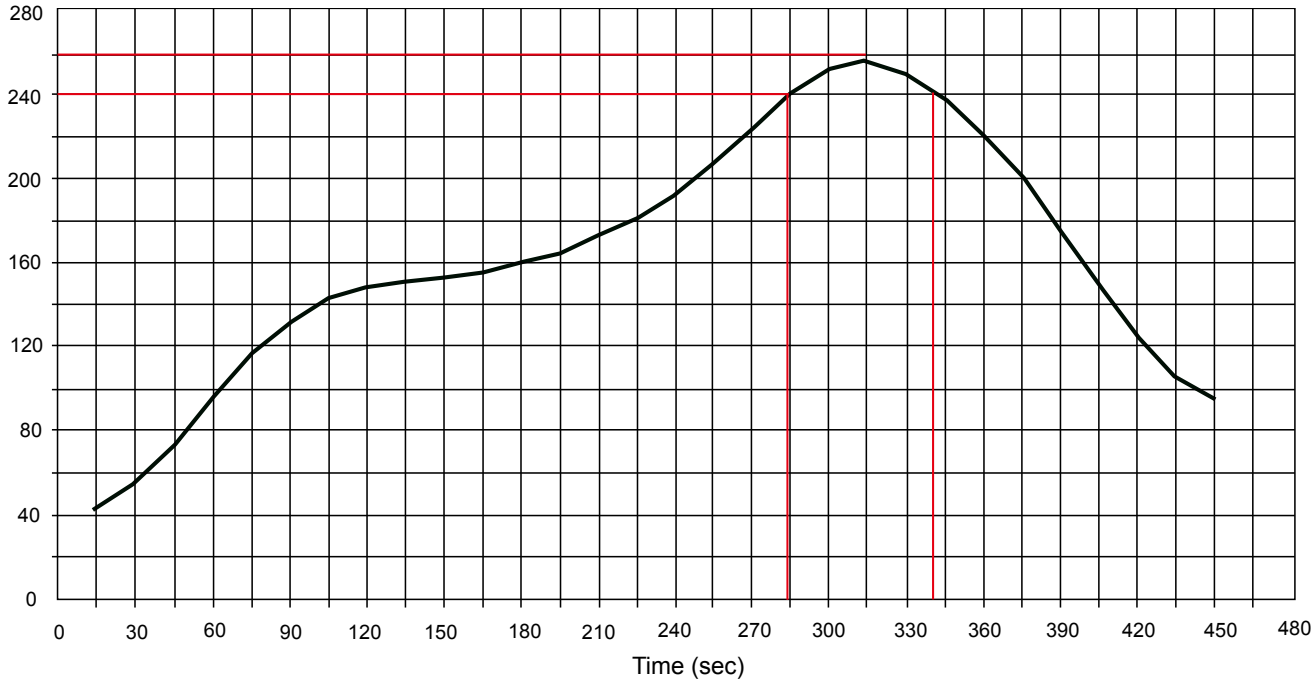


Figure 2. Protected Two I/O Lines without GND

Solder Reflow Recommendation

Peak Temp=257℃, Ramp Rate=0.802deg. ℃/sec

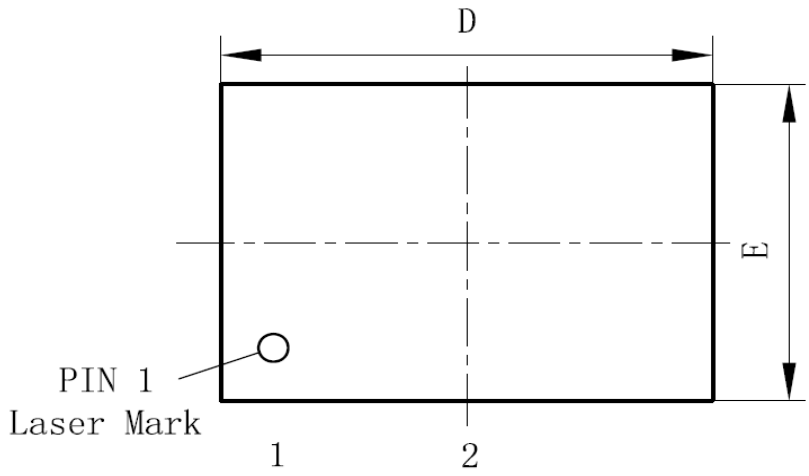


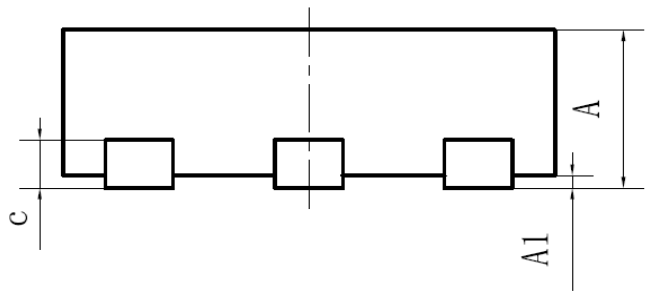
PCB Design

For TVS diodes a low-ohmic and low-inductive path to chassis earth is absolutely mandatory in order to achieve good ESD protection. Novices in the area of ESD protection should take following suggestions to heart:

- Do not use stubs, but place the cathode of the TVS diode directly on the signal trace.
- Do not make false economies and save copper for the ground connection.
- Place via holes to ground as close as possible to the anode of the TVS diode.
- Use as many via holes as possible for the ground connection.
- Keep the length of via holes in mind! The longer the more inductance they will have.

DFN1510TP6 PACKAGE OUTLINE & DIMENSIONS





SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A	0. 70	0. 75	0. 80
A1	——	0. 02	0. 05
b	0. 17	0.20	0. 25
c	0.15	0.20	0.25
D	1. 45	1. 50	1. 55
E	0. 90	1. 00	1. 10
e	0. 50BSC		
L	0. 20	0.25	0. 30
h	0. 08	0. 10	0. 12