Leiditech

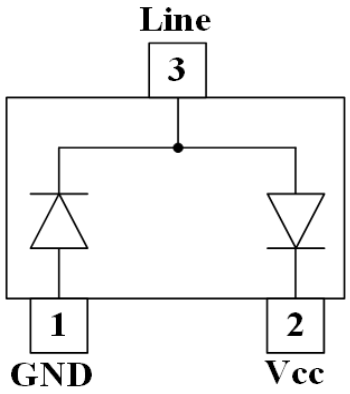
NUP1301LM

Low Capacitance TVS Diode Array

Features

- Operating voltage: 100V
- Low clamping voltage
- Complies with following standards:
  – IEC 61000-4-2 (ESD) immunity test
    Air discharge: ±25kV
    Contact discharge: ±15kV
  – IEC61000-4-4 (EFT) 40A (5/50ns)
  – IEC61000-4-5 (Lightning) 15A (8/20μs)
- RoHS Compliant

Dimensions SOT-23



Applications

- RF signal lines
- Near Field Communication (NFC) lines
- FM Antenna
- LVDS Interfaces
- Digital Lines

Mechanical Characteristics

- Package: SOT-23
- Lead Finish: Lead Free
- UL Flammability Classification Rating 94V-0
- Quantity Per Reel:3000pcs
- Reel Size:7 inch

Absolute Maximum Ratings(Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ipp	15	A
ESD per IEC 61000−4−2 (Air)	V_{ESD}	± 25	Kv
ESD per IEC 61000−4−2 (Contact)		± 15	
Operating Temperature Range	T_J	-55 to +125	℃
Storage Temperature Range	T_{STJ}	-55 to +150	℃

Electrical Characteristics(TA=25°C unless otherwise specified)

Part Number	Device Marking	V_{RWM} (V)	V_{BR} (V)	I_T (mA)	V_C @1A	Vc		I_R μA (Max)	C (Pf) (Typ.)
						(Max)	(@A)		
NUP1301LM	CDD	100	110	1	1.6	10	15	0.05	0.7

TYPIC CHARACTERISTICS

Figure 1. 8 x 20 μs Waveform

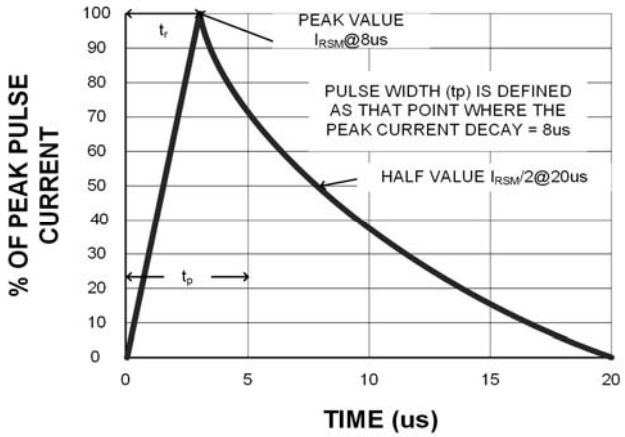


Figure 2. Power Derating Curve

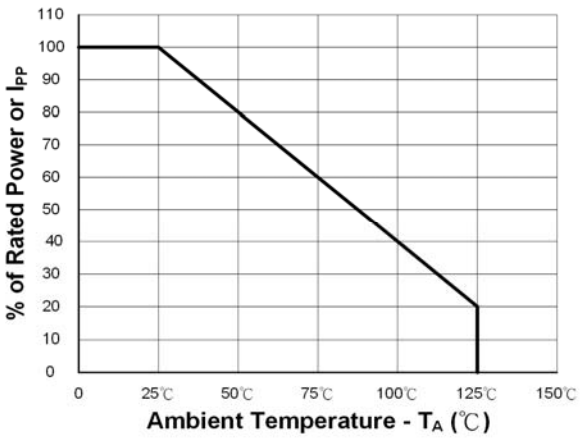
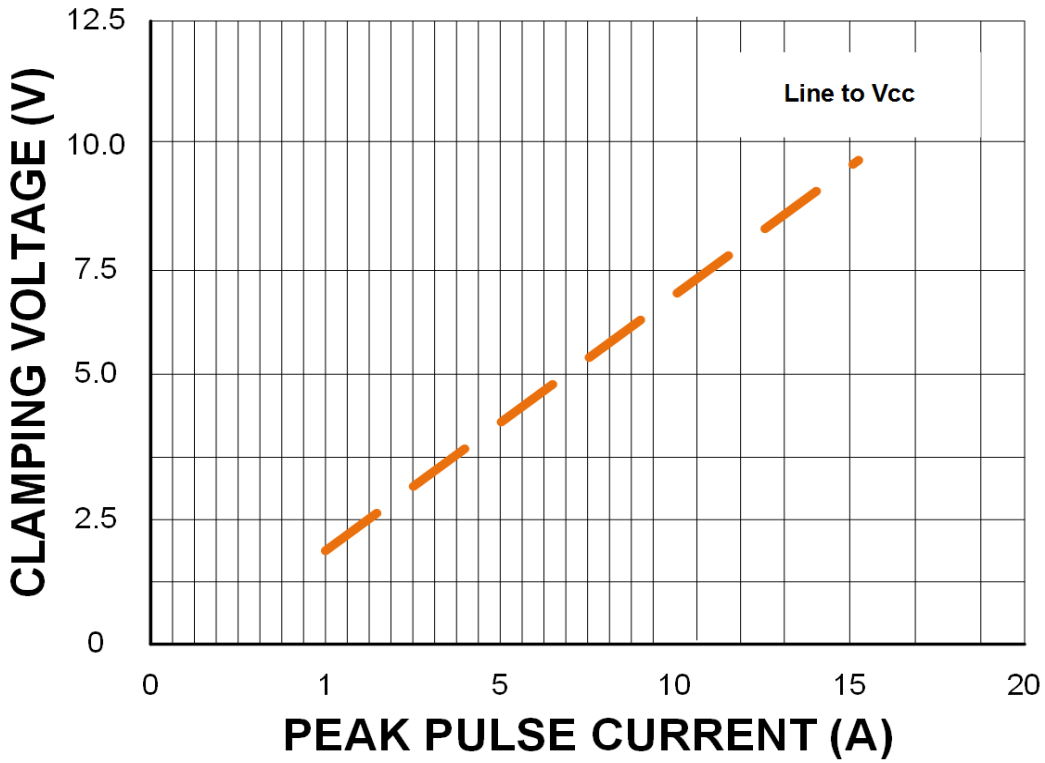


Figure 3. Clamping Voltage vs. Peak Pulse Current (tp=8/20 μs)



TYPIC CHARACTERISTICS

Figure 4. Typic Breakdown Voltage vs. Temperature

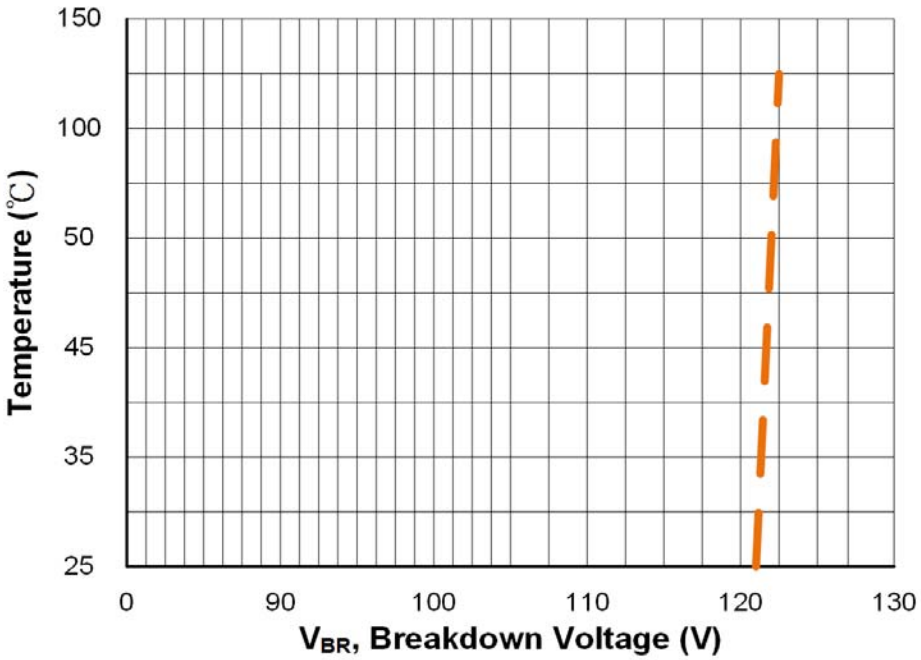
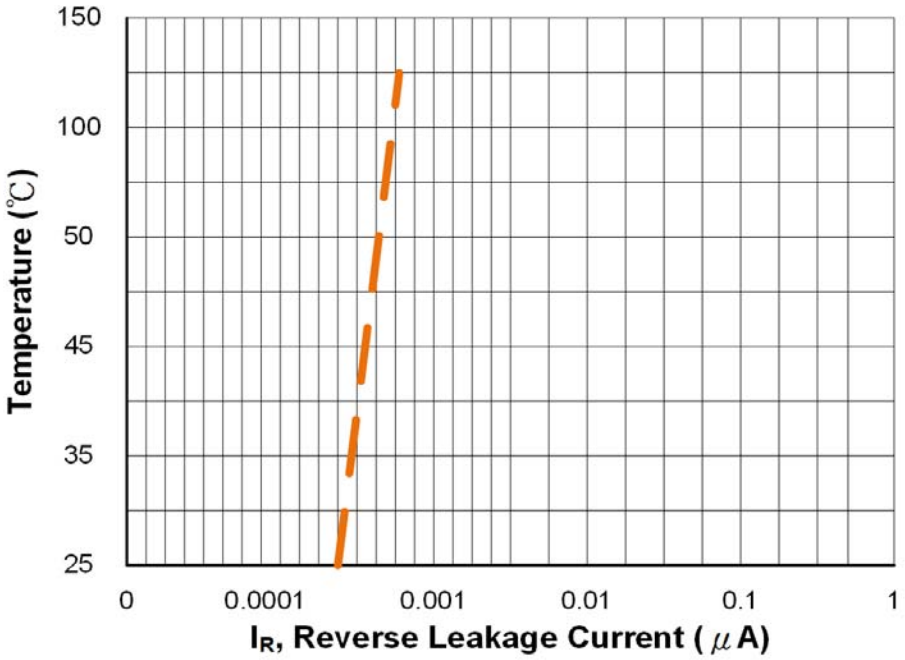
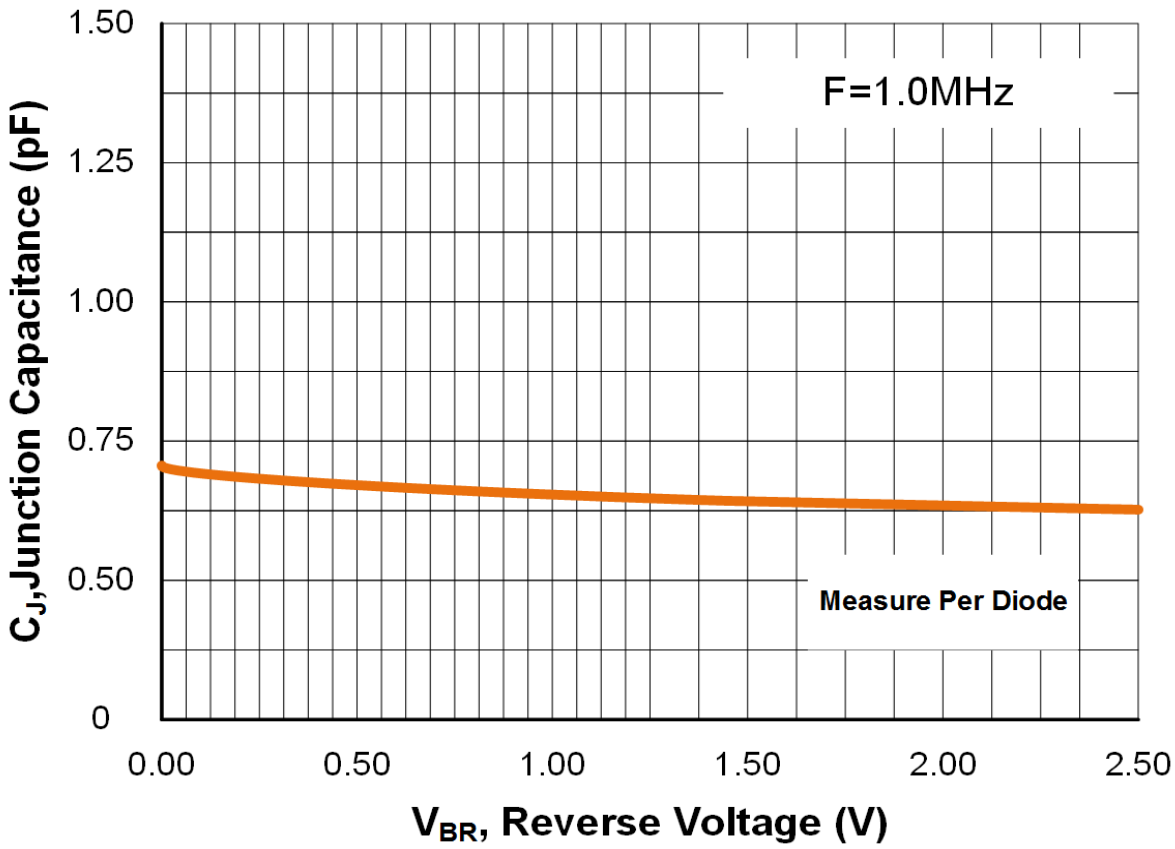


Figure 5. Typic Reverse Current vs. Temperature



TYPIC CHARACTERISTICS

Figure 6. Typic Capacitance vs. Reverse Voltage



APPLICATION INFORMATION

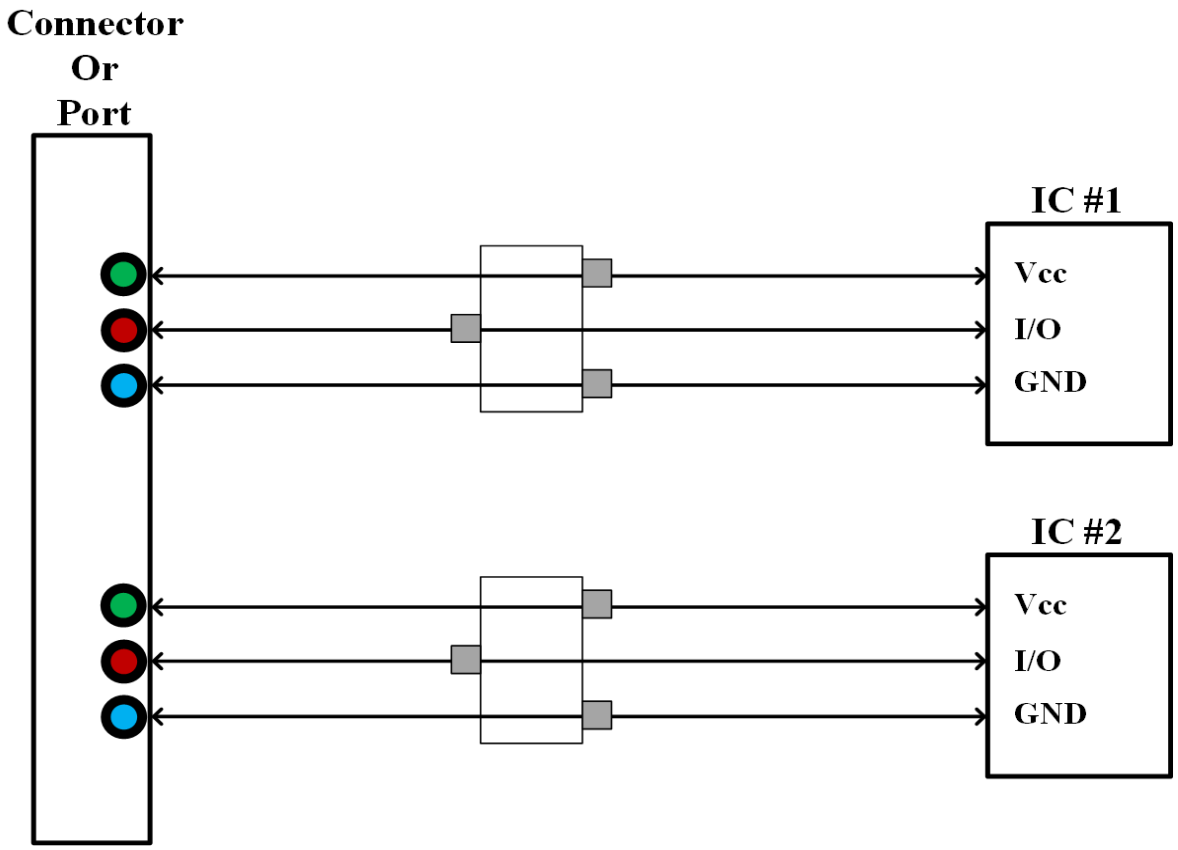
Figure 7. Layout Guidelines

NUR1301LM TVS Array is designed to protect one data line from transient over voltage by clamping them to s fixed reference.

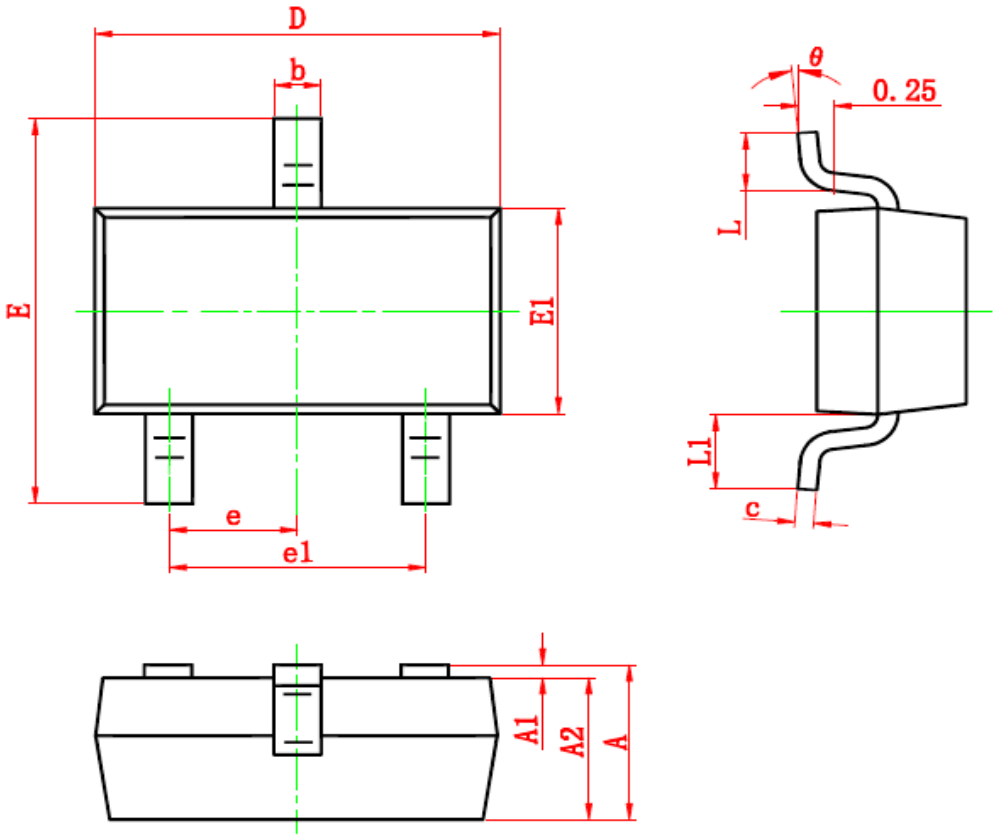
When the voltage on the protected line exceeds the reference voltage (plus diode V_F) the steering diodes are forward biased, conducting the transient current away from the sensitive circuitry.

Data line is connected at Pins 1 and 6. The negative reference is connected at pin 2.

These pins should be connected directly to a gound plane on the board for best results. The path length is kept as short as possible to minimize parasitic inductance.



SOT-23 Package Outline & Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	2.250	2.550	0.089	0.100
E1	1.200	1.400	0.047	0.055
e	0.950 TYP.		0.037 TYP.	
e1	1.800	2.000	0.071	0.079
L	0.300	0.500	0.012	0.020
L1	0.550 REF.		0.022 REF.	
θ	0°	8°	0°	8°

Shanghai Leiditech Electronic Co.,Ltd
Email: sale1@leiditech.com
Tel : +86- 021 50828806
Fax : +86- 021 50477059