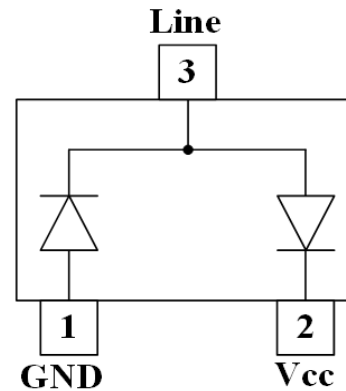


### Features

- Operating voltage: 100V
- Low clamping voltage
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    - Air discharge:  $\pm 25\text{kV}$
    - Contact discharge:  $\pm 15\text{kV}$
  - IEC61000-4-4 (EFT) 40A (5/50ns)
  - IEC61000-4-5 (Lightning) 15A (8/20 $\mu\text{s}$ )
- 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 (T<sub>amb</sub>=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 $\mu\text{s}$ )	I <sub>pp</sub>	15	A
ESD per IEC 61000-4-2 (Air)	V <sub>ESD</sub>	$\pm 25$	Kv
ESD per IEC 61000-4-2 (Contact)		$\pm 15$	
Operating Temperature Range	T <sub>J</sub>	-55 to +125	°C
Storage Temperature Range	T <sub>STJ</sub>	-55 to +150	°C

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

Part Number	Device Marking	V <sub>RWM</sub> (V)	V <sub>BR</sub> (V)	I <sub>T</sub> (mA)	V <sub>C</sub> @1A	V <sub>C</sub>		I <sub>R</sub> 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  $\mu$ s Waveform

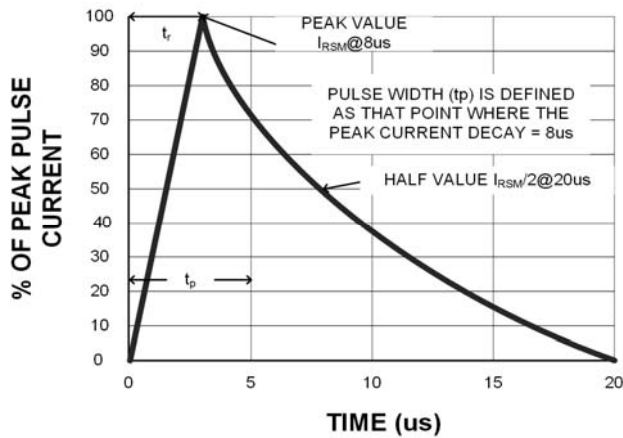


Figure 2. Power Derating Curve

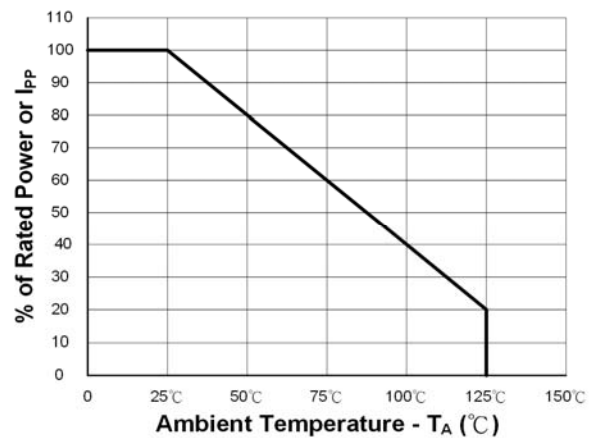
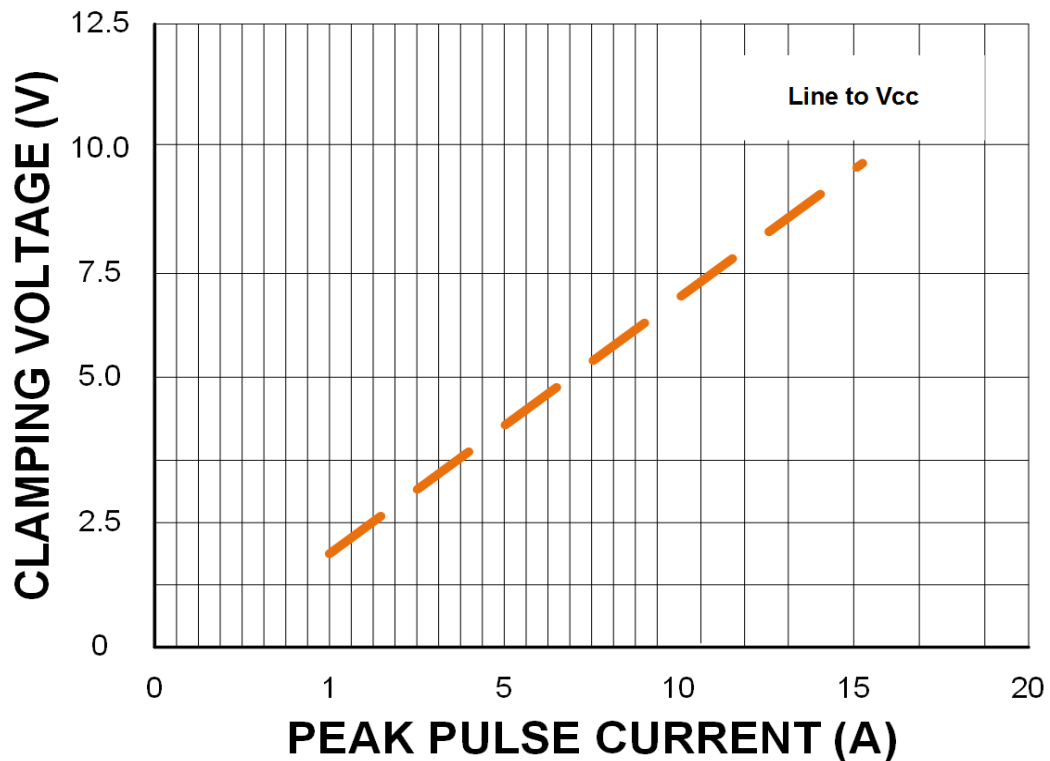
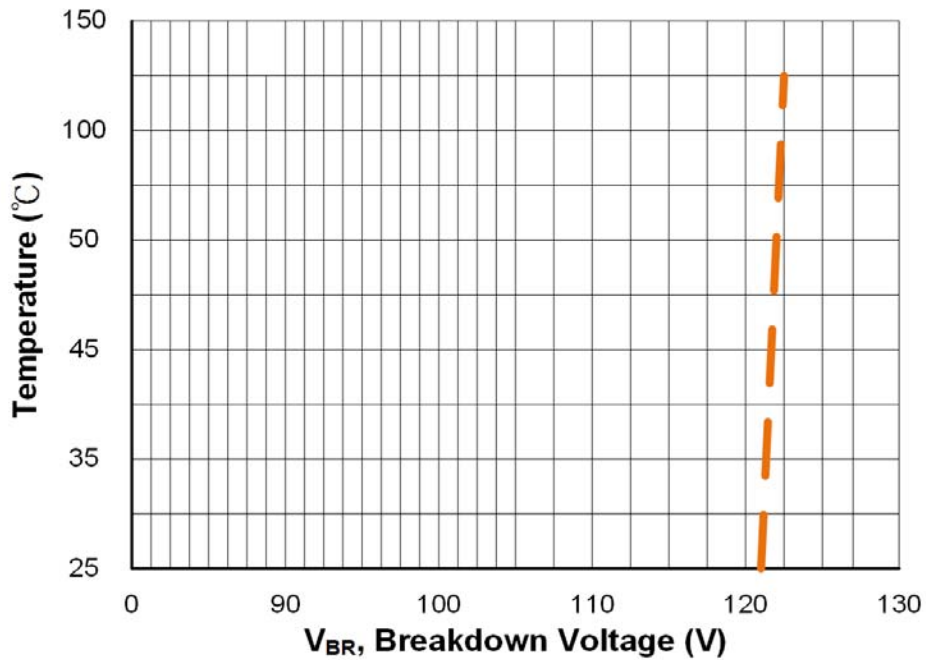


Figure 3. Clamping Voltage vs. Peak Pulse Current ( $t_p=8/20 \mu s$ )

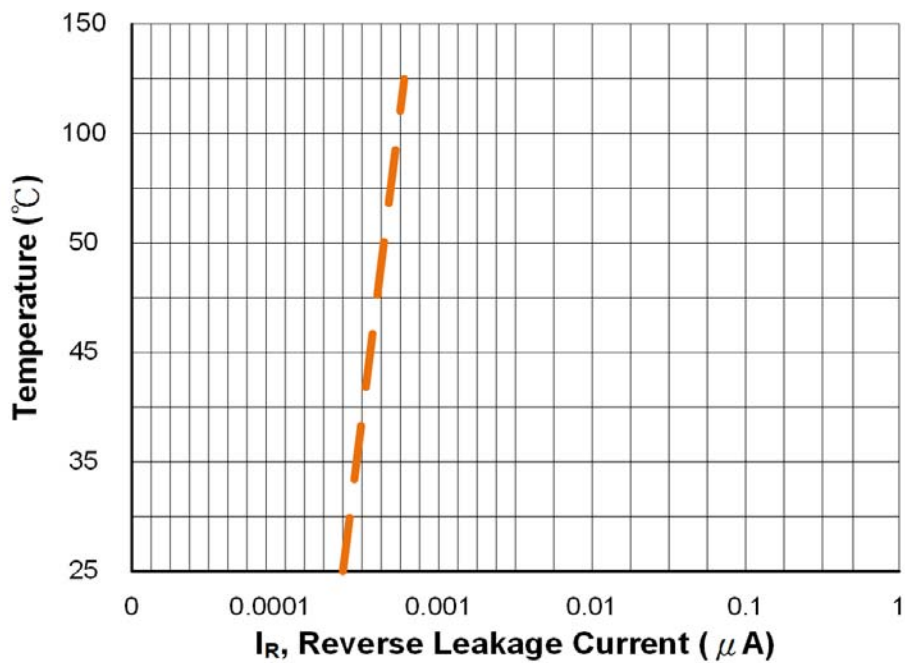


## TYPIC CHARACTERISTICS

**Figure 4. Typical Breakdown Voltage vs. Temperature**

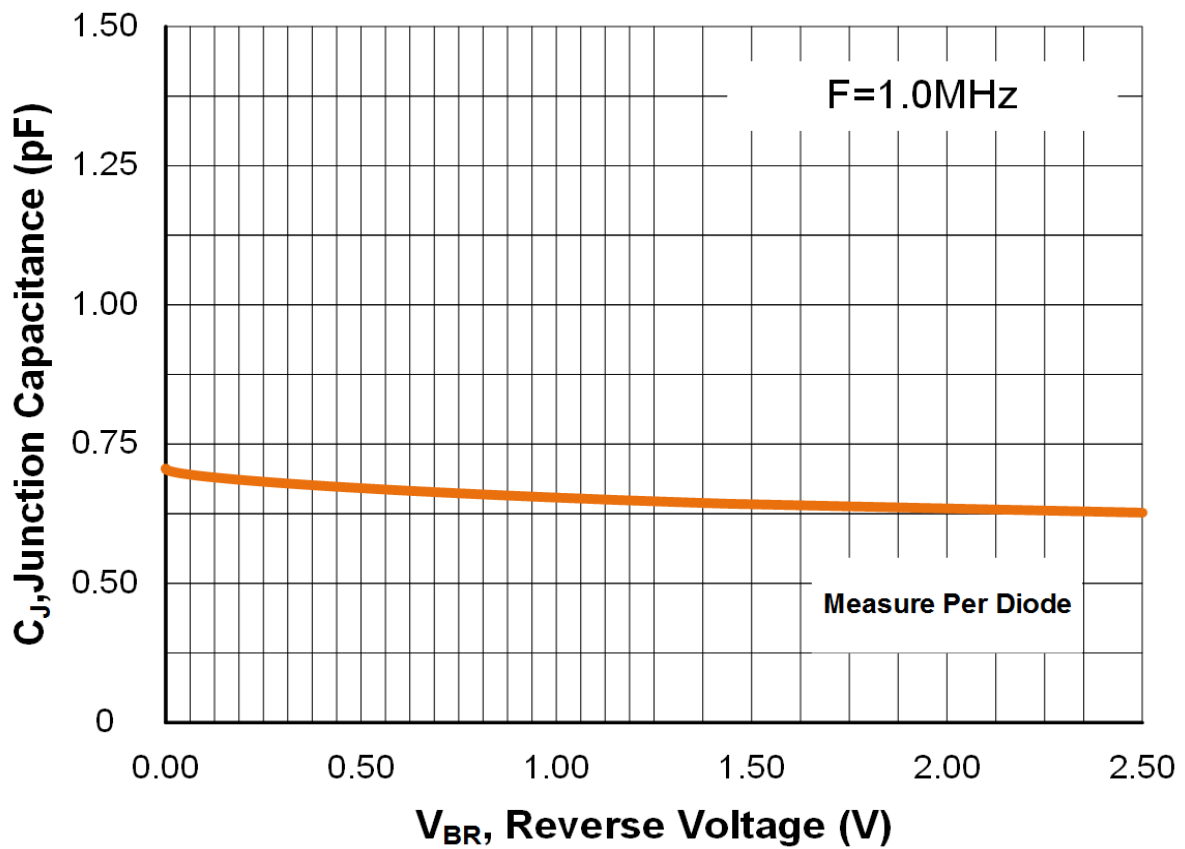


**Figure 5. Typical Reverse Current vs. Temperature**



## TYPIC CHARACTERISTICS

Figure 6. Typic Capacitance vs. Reverse Voltage



## APPLICATION INFORMATION

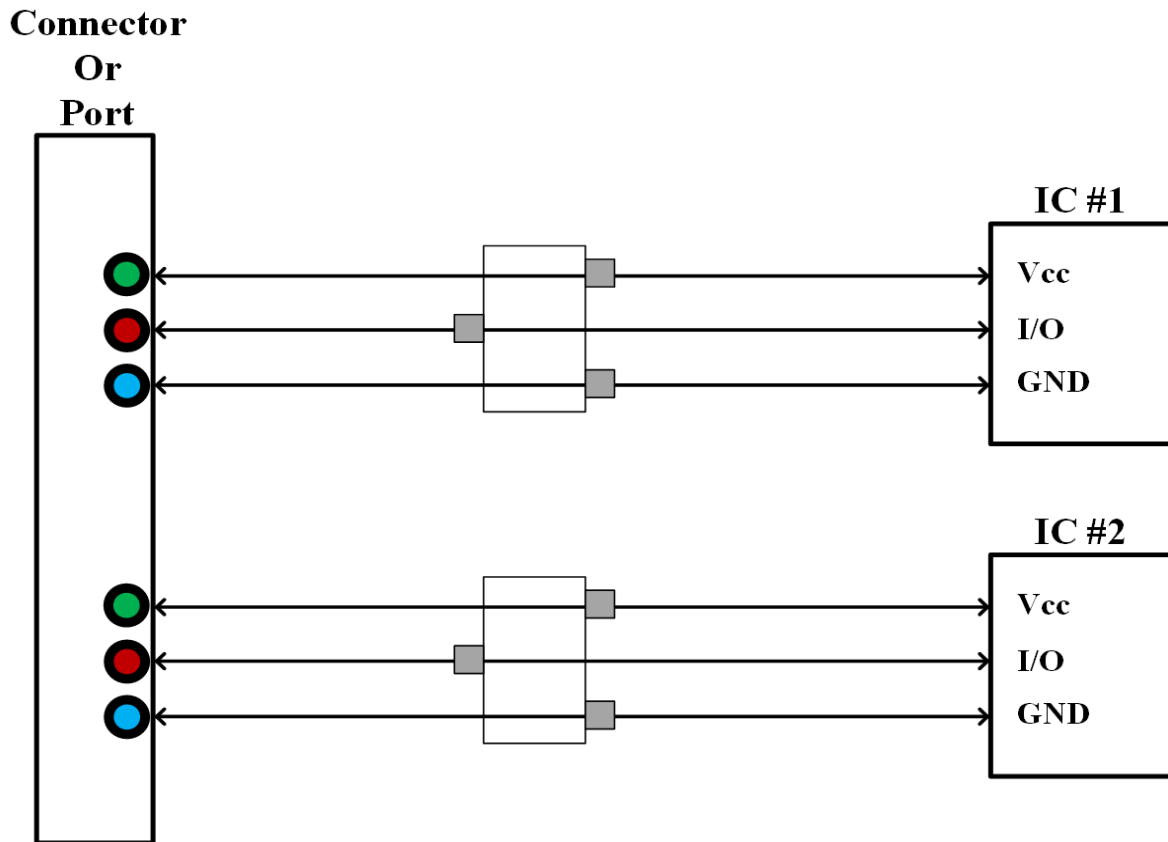
**Figure 7. Layout Guidelines**

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

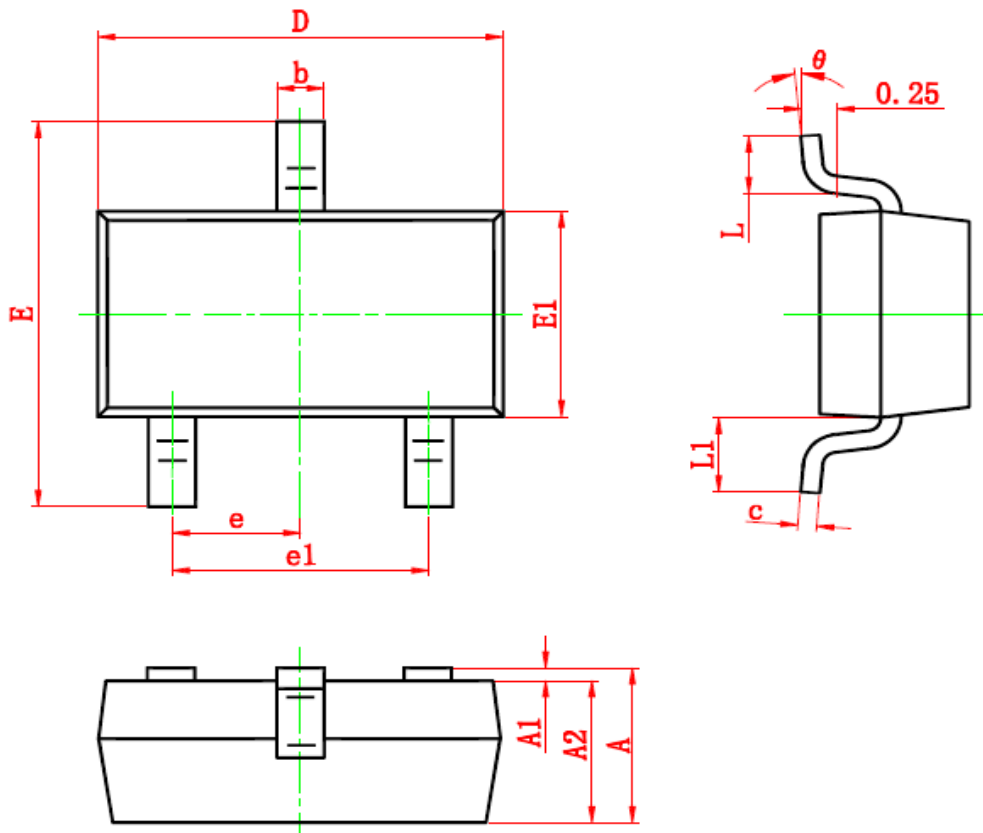
When the voltage on the protected line exceeds the reference voltage (plus diode  $V_F$ ) the steering diodes are forward biased, conducting the transient current away from the sensitive circuitry.

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 ground 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.	
$\theta$	0°	8°	0°	8°

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