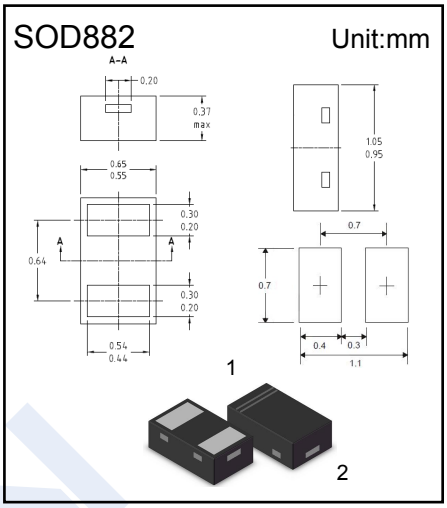
TVS Diodes

ESD8L3.3



■ Features

- Ultra Low Capacitance 0.5 pF
- Low Clamping Voltage
- Stand−off Voltage: 3.3 V
- Response Time is Typically < 1.0 ns
- IEC61000−4−2 Level 4 ESD Protection

PIN 1. CATHODE
2. ANODE

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
IEC 61000−4−2 (ESD) Contact	ESD	±10	KV
IEC 61000−4−2 (ESD) Air		±15	
Total Power Dissipation on FR−5 Board (Note 1)	P_d	150	mW
Junction Temperature	T_J	125	℃
Lead Solder Temperature (10 Second Duration)	T_L	260	
Storage Temperature range	T_{stg}	-55 to 150	

Note.1: FR−5 = 1.0 x 0.75 x 0.62 in.

■ Electrical Characteristics (T_A = 25°C unless otherwise noted, V_F = 1.0 V Max. @ I_F = 10 mA for all types)

Device	Device Marking	V_{RWM} (V)	I_R (uA) @ V_{RWM}	V_{BR} (V) @ I_T (Note 1)	I_T	C (pF)		V_C (V) @ I_{PP} = 1 A (Note 2)	V_C
		Max	Max	Min	mA	Typ	Max	Max	Per IEC61000−4−2 (Note 3)
ESD8L3.3	P	3.3	1.0	4.8	1.0	0.5	0.9	12	Figures 1 and 2 See Below

Note.1. V_{BR} is measured with a pulse test current I_T at an ambient temperature of 25°C.
2. Surge current waveform per Figure 5.
3. For test procedure see Figures 3 and 4 and Application Note AND8307/D.

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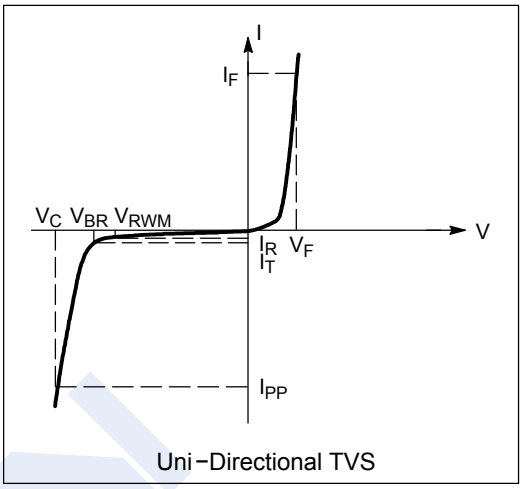
■ Electrical Characteristics Ta = 25℃

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_F	Forward Current
V_F	Forward Voltage @ I_F
P_{pk}	Peak Power Dissipation
C	Capacitance @ V_R = 0 and f = 1.0 MHz

*See Application Note AND8308/D for detailed explanations of datasheet parameters.



Uni−Directional TVS

■ Typical Characterisitics

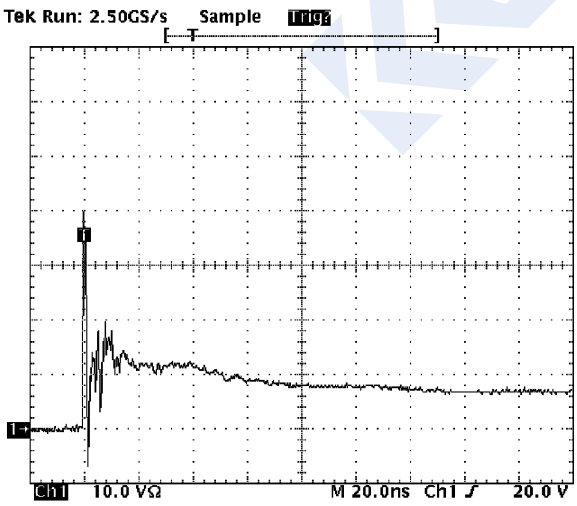


Figure 1. ESD Clamping Voltage Screenshot
Positive 8 kV Contact per IEC61000 −4−2

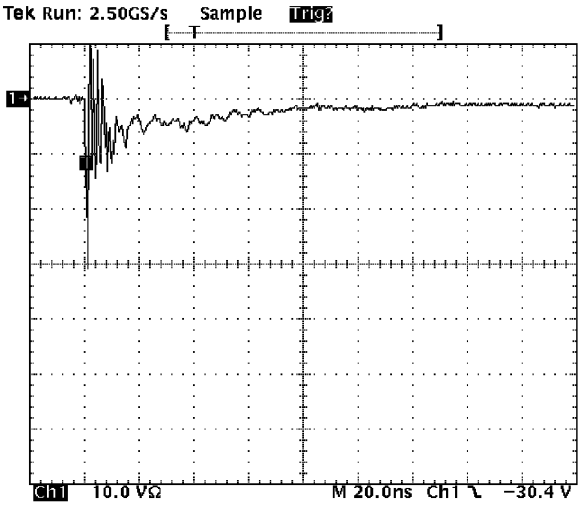


Figure 2. ESD Clamping Voltage Screenshot
Negative 8 kV Contact per IEC61000 −4−2

TVS Diodes

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■ Typical Characterisitics

IEC 61000−4−2 Spec.

Level	Test Voltage (kV)	First Peak Current (A)	Current at 30 ns (A)	Current at 60 ns (A)
1	2	7.5	4	2
2	4	15	8	4
3	6	22.5	12	6
4	8	30	16	8

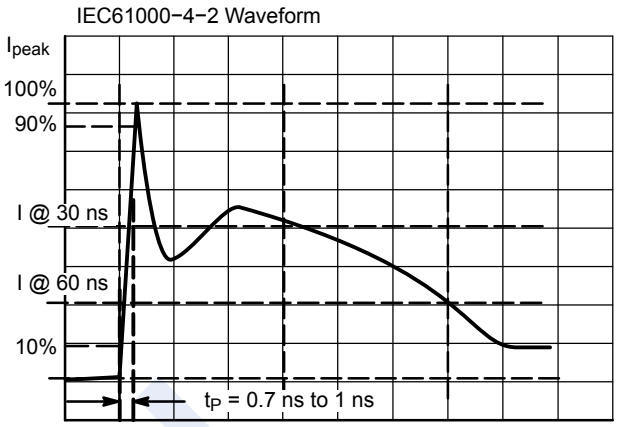

Figure 3. IEC61000 −4−2 Spec

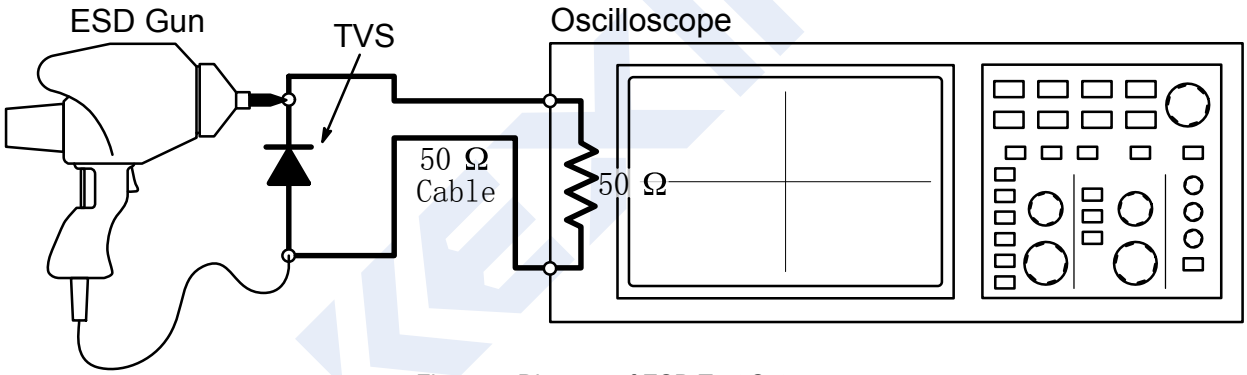

Figure 4. Diagram of ESD Test Setup

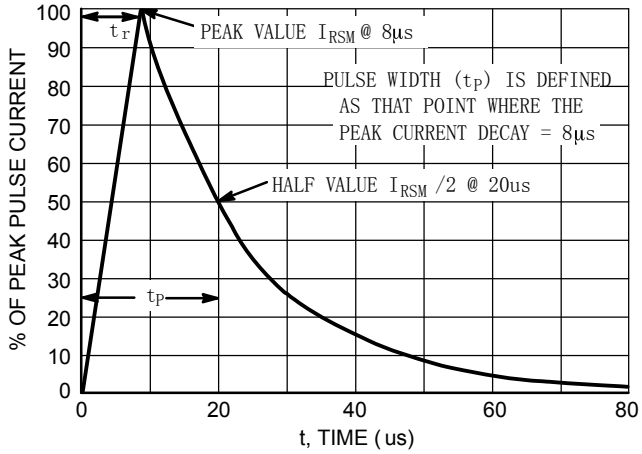

Figure 5. 8 X 20 us Pulse Waveform