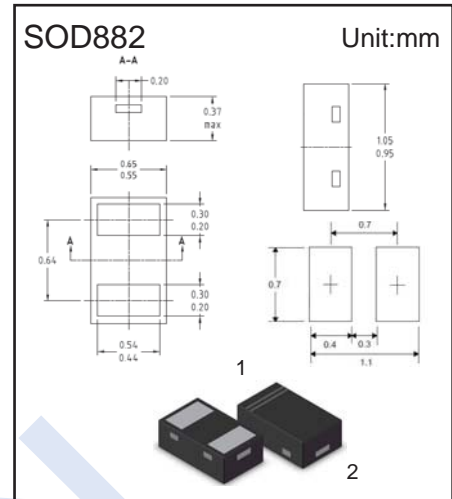


## TVS Diodes

### ESD8D3.3 ~ ESD8D12

#### ■ Features

- Stand-off Voltage: 3.3 V – 12 V
- Low leakage
- Response Time is Typically < 1 ns
- ESD Rating of Class 3 (> 16 kV) per Human Body Model
- IEC61000-4-2 Level 4 ESD Protection



#### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
ESD Per IEC61000-4-2 (Air)	$V_{PP}$	$\pm 15$	KV
ESD Per IEC61000-4-2 (Contact)		$\pm 8$	
ESD Voltage- Per Human Body Model	ESD	16	
Total Power Dissipation on FR-5 Board	$P_D$	150	mW
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Maximum Lead Temperature for Soldering During 10s	$T_L$	260	
Storage Temperature range	$T_{stg}$	-55 to 155	

#### ■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Device	$V_{RWM}$ (V)	$I_R$ ( $\mu\text{A}$ ) @ $V_{RWM}$	$V_{BR}$ (V) @ $I_T$ (Note 1)	$I_T$ mA	$I_{PP}$ (A) (Note 2)	$V_C$ (V) @ Max $I_{PP}$ (Note 2)	$P_{PK}$ (W) (8*20 us)	C (pF)
	Max	Max	Min		Max	Max	Typ	Typ
ES D8D3.3	3.3	2.5	5.0	1.0	9.8	10.4	102	80
ES D8D5.0	5.0	1.0	6.2	1.0	8.7	12.3	107	65
ES D8D12	12	1.0	13.3	1.0	5.9	23.7	140	30

Other voltage available upon request.

Note.1 .  $V_{BR}$  is measured with a pulse test current  $I_T$  at an ambient temperature of  $25^\circ\text{C}$

Note.2 Surge current waveform per Figure 3.

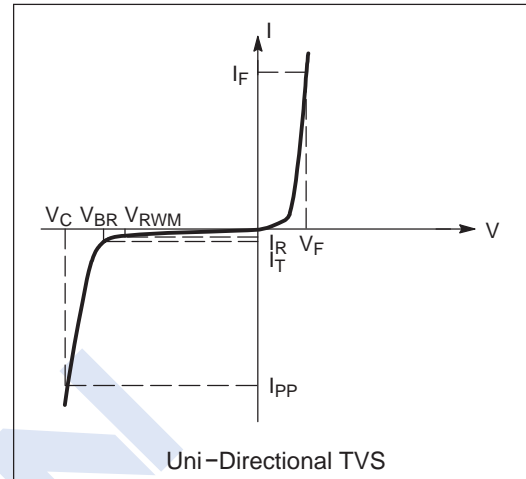
## TVS Diodes

### ESD8D3.3 ~ ESD8D12

#### ■ ELECTRICAL CHARACTERISTICS

( $T_A = 25^\circ\text{C}$  unless otherwise noted)

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	Max. Capacitance @ $V_R = 0$ and $f = 1$ MHz



#### ■ Typical Characteristics

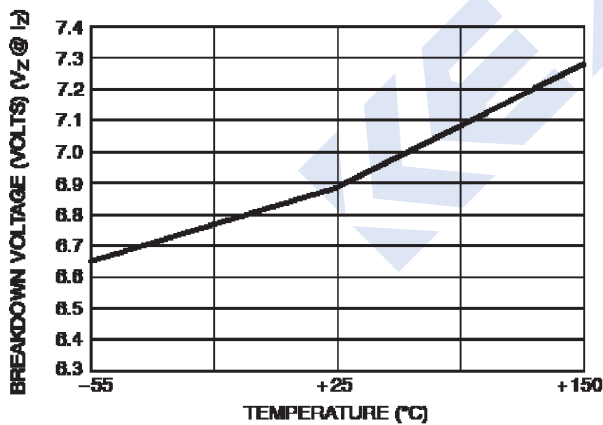


Figure 1. Typical Breakdown Voltage versus Temperature

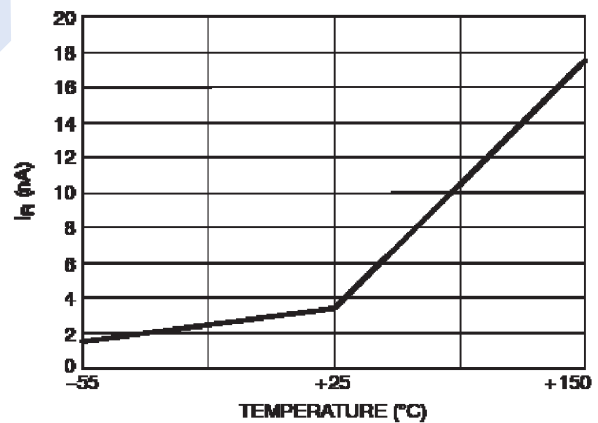


Fig 2. Typical Leakage Current versus Temperature

## TVS Diodes

### ESD8D3.3 ~ ESD8D12

#### ■ Typical Characteristics

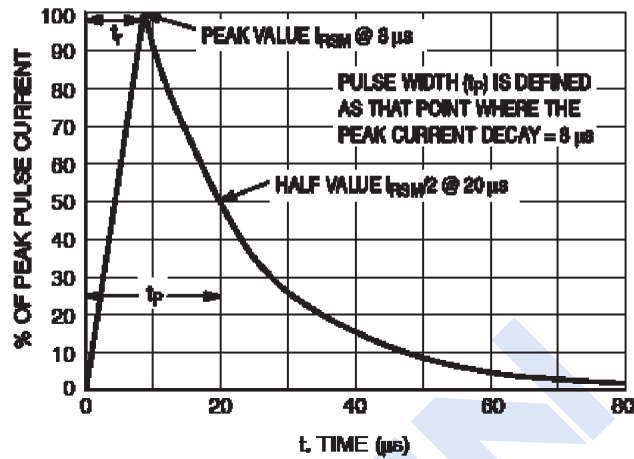


Figure 3. 8\*20  $\mu s$  Pulse Waveform

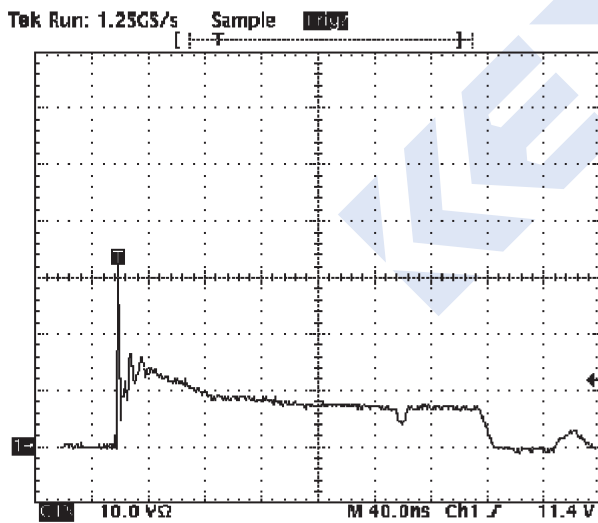


Figure 4. Positive 8kV contact per IEC 61000-4-2-LESD8D3.3T5G

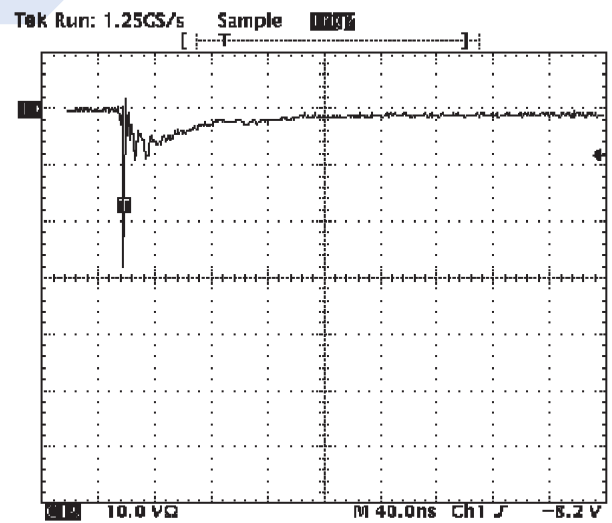


Fig 5. Negative 8kV contact per IEC 61000-4-2-LESD8D3.3T5G