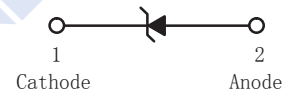
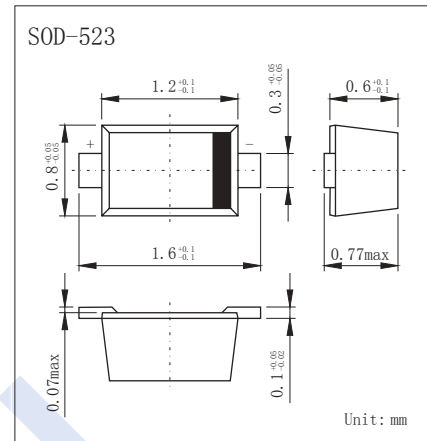


TVS Diodes

ESD5Z2.5 ~ ESD5Z12

■ Features

- Stand-off Voltage: 2.5 V – 12 V
- Peak Power up to 240 Watts @ 8 x 20us Pulse
- 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
- IEC61000-4-4 Level 4 EFT Protection



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

Parameter	Symbol	Rating	Unit
ESD Per IEC61000-4-2 (Air)	ESD	± 30	KV
ESD Per IEC61000-4-2 (Contact)		± 30	
ESD Voltage- Per Human Body Model		16	
ESD Voltage- Per Machine Model		400	V
IEC 61000-4-4 (EFT)		40	A
Total Power Dissipation on FR-5 Board (Note.1)	P_D	200	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 150	

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

Device**	Device Marking	V_{RWM} (V)	I_R (μA) @ V_{RWM}	V_{BR} (V) @ I_T (Note 2)	I_T	V_C (V) @ $I_{PP} = 5.0 \text{ A}^\dagger$	V_C (V) @ Max I_{PP}^\dagger	I_{PP} (A) †	P_{pk} (W) †	C (pF)
		Max	Max	Min	mA	Typ	Max	Max	Max	Typ
ESD5Z2.5	ZD	2.5	6.0	4.0	1.0	6.5	10.9	11.0	120	145
ESD5Z3.3	ZE	3.3	0.05	5.0	1.0	8.4	14.1	11.2	158	105
ESD5Z5.0	ZF	5.0	0.05	6.2	1.0	11.6	18.6	9.4	174	80
ESD5Z6.0	ZG	6.0	0.01	6.8	1.0	12.4	20.5	8.8	181	70
ESD5Z7.0	ZH	7.0	0.01	7.5	1.0	13.5	22.7	8.8	200	65
ESD5Z12	ZM	12	0.01	14.1	1.0	17	25	9.6	240	55

**Other voltages available upon request.

† Surge current waveform per Figure 1.

2. V_{BR} is measured with a pulse test current I_T at an ambient temperature of 25°C .

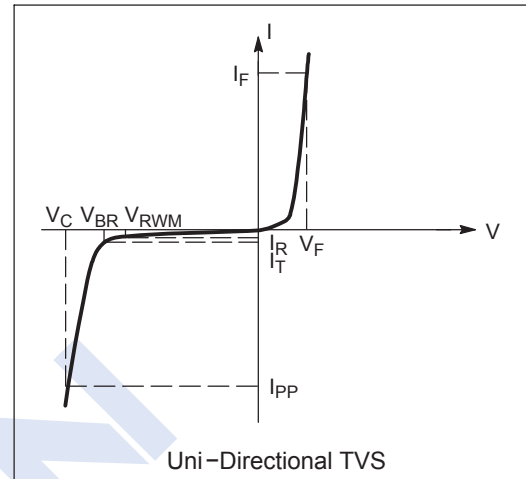
TVS Diodes

ESD5Z2.5 ~ ESD5Z12

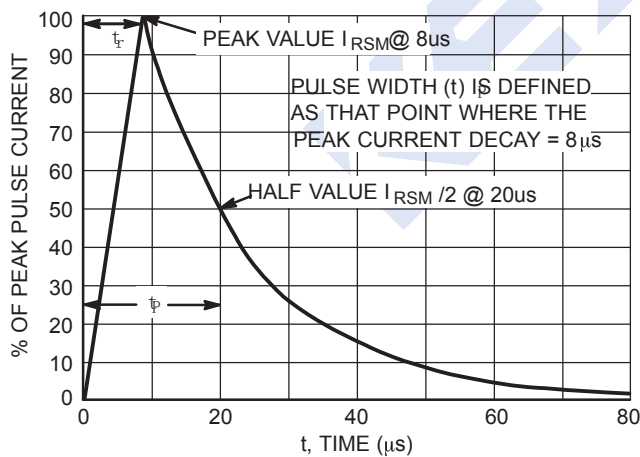
■ ELECTRICAL CHARACTERISTICS

($T_A = 25^\circ\text{C}$ 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



TVS Diodes

ESD5Z2.5 ~ ESD5Z12

■ Typical Characteristics

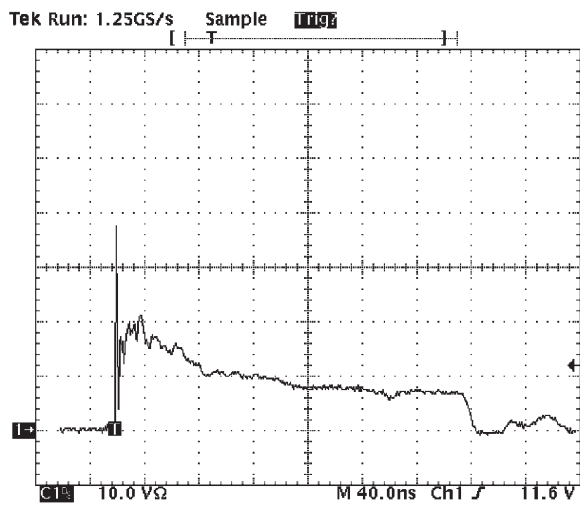


Figure 2. Positive 8 kV contact per IEC 6100 -4-2
- ESD5Z5.0

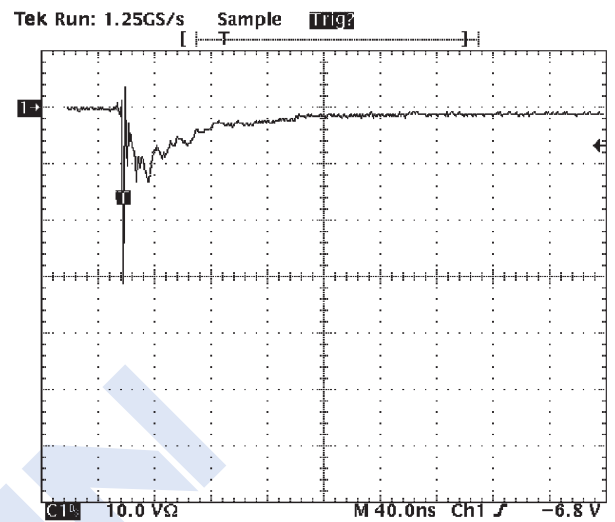


Figure 3. Negative 8 kV contact per IEC 6100 -4-2
- ESD5Z5.0