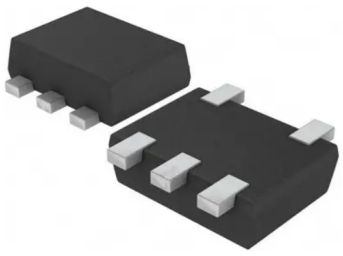
Desicription

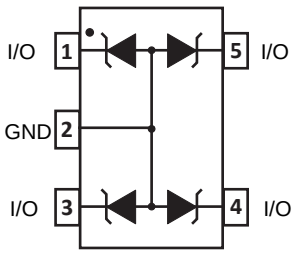
◆ This low-power TVS （Transient Voltage Suppressor)is mainly used for signal and power supply to protect the back-stage circuit from ESD(Electrostatic Discharge) and EFT(Electrical Fast Transients) and improve the reliability of the product, because its extremely small package is suitable for various portable devices and mobile electronic devices.



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Features

◆ IEC61000-4-2(ESD):±20KV Max Air
±15KV Max Contact
◆ IEC61000-4-4(EFT):40A(5/50ns)
◆ IEC61000-4-5(Surge): 4A(8/20us)
◆ Line capacitance: 0.5pF(typical)@1MHz
◆ Very low reverse current:I_R< 0.2 uA(typical)
◆ Halogen free ,Lead free and RoHs



Circuit Diagram

Application

◆ Cellular phones
◆ Portable devices
◆ Digital cameras
◆ Player
◆ Smart home
◆ Robot

Order information

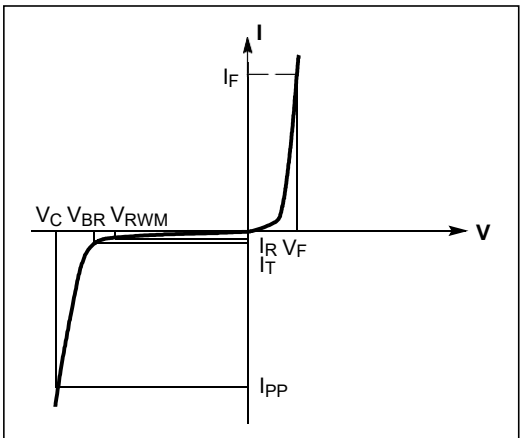
Model	Marking	Package	shipping
ESD5P005TR		SOT-553	3000/Tape&Reel

Electrical characteristic(T=25℃，unless otherwise specified)

Parameter	Symbol	Conditions	Min.	TYP.	Max.	Units
Reverse stand-off voltage	V_{RWM}				5.0	V
Reverse leakage current	I_R I/O to GND	V_{RWM}=5.0V			0.2	uA
Reveres breakdown voltage	V_{BR} I/O to GND	I_T=1mA	6.0	8.0		V
Clamping voltage	V_C I/O to GND	I_{PP}=1A(8/20us)		11.0		V
		I_{pp}= 4A(8/20us)			15.0	V
Junction capacitance	C_J	V_R=0V f=1MHz		0.5	0.8	pF

Electrical characteristic(T=25℃，unless otherwise specified)

Symbol	Parameter
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
I_F	Forward Current
V_F	Forward Voltage @ I_F

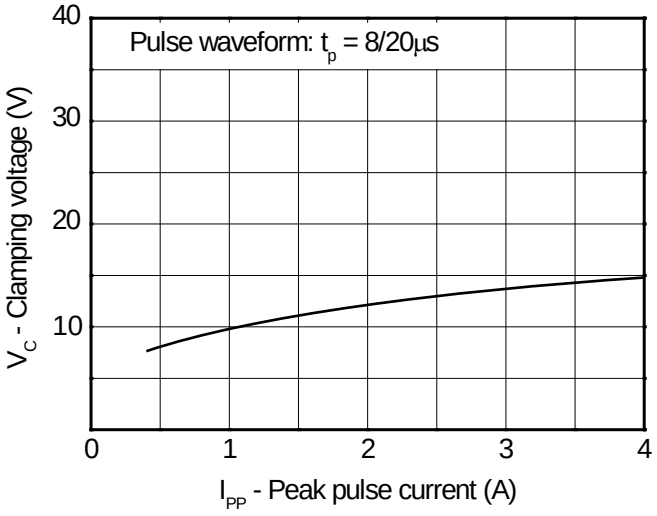


Uni−Directional TVS

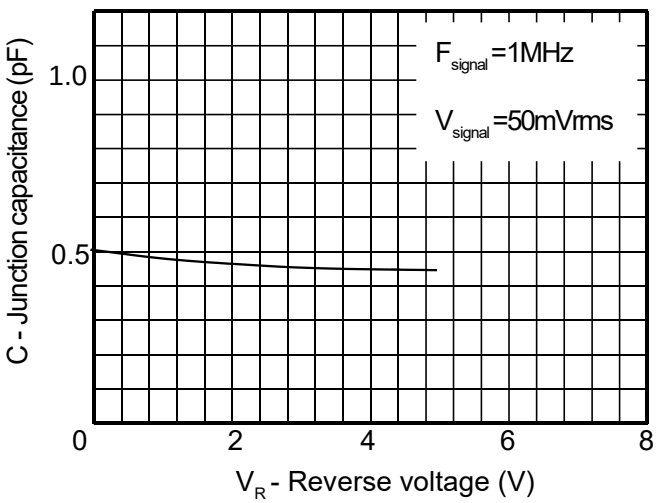
Maximum Rating

Rating	symbol	value	Units
Peak Pulse Current(tp=8/20us)	I_{pp}	4.0	A
ESD per IEC61000-4-2(Contact)	V_{ESD}	±15	KV
ESD per IEC61000-4-2(Air)		±20	
Operating Temperature	T_J	-40~125	℃
Storage Temperature	T_{STG}	-55~155	℃

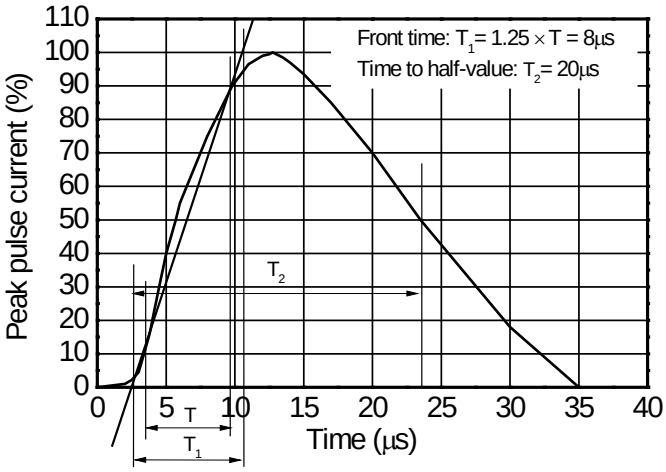
Typical characteristic



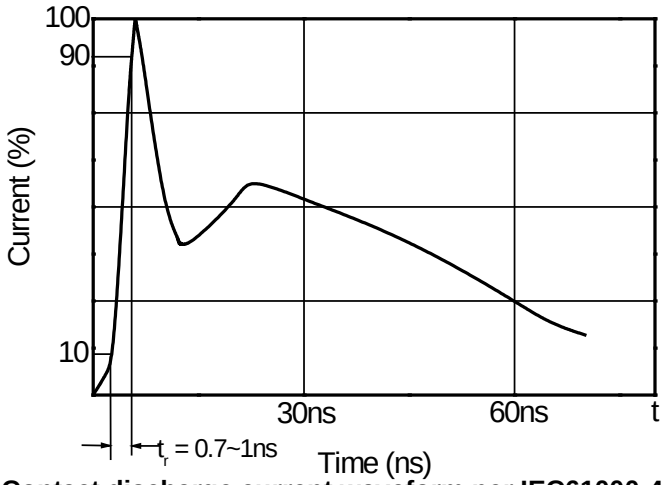
Clamping voltage vs. Peak pulse current



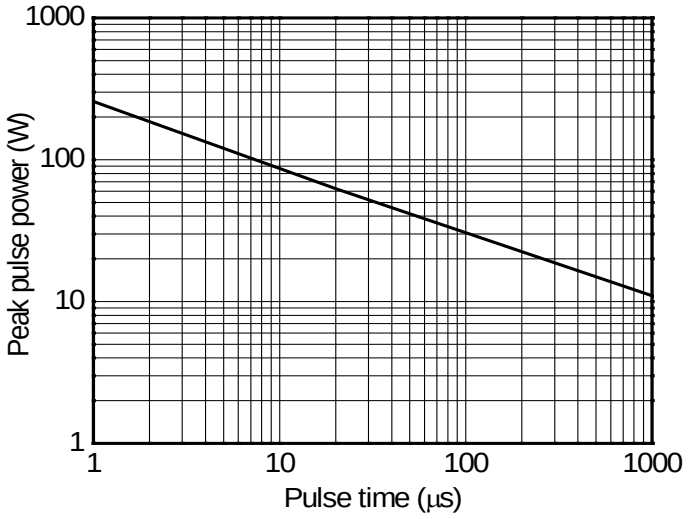
Capacitance vs. Reveres voltage



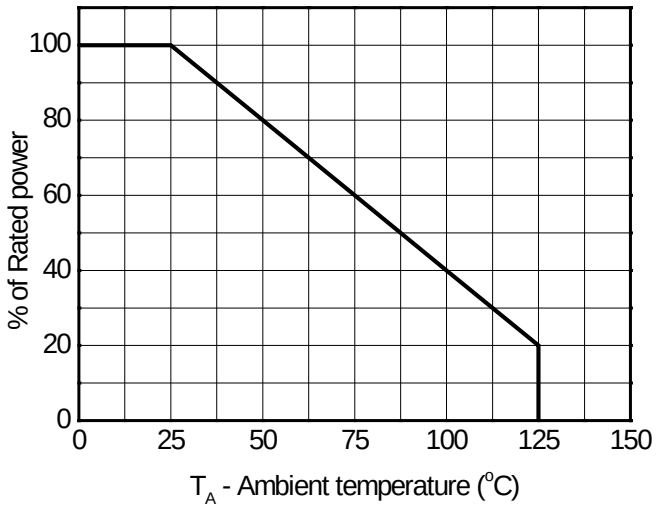
8/20μs waveform per IEC61000-4-5



Contact discharge current waveform per IEC61000-4-2



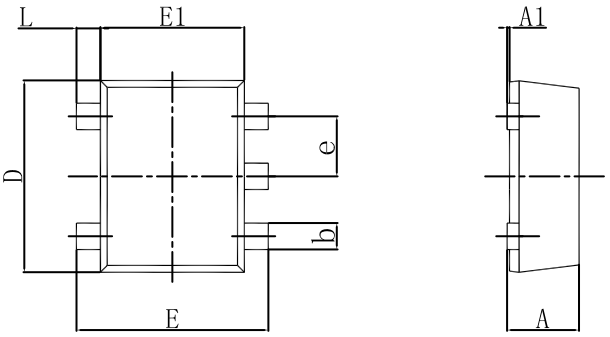
Non-repetitive peak pulse power vs. Pulse time

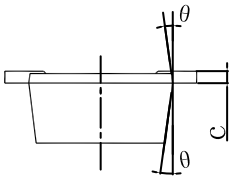


Power derating vs. Ambient temperature

Dimension outline Unit:mm

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Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.525	0.600	0.021	0.024
A1	0.000	0.050	0.000	0.002
e	0.450	0.550	0.018	0.022
c	0.090	0.160	0.004	0.006
D	1.500	1.700	0.059	0.067
b	0.170	0.270	0.007	0.011
E1	1.100	1.300	0.043	0.051
E	1.500	1.700	0.059	0.067
L	0.100	0.300	0.004	0.012
θ	7° REF.		7° REF.	

Recommened Mounting Pad Layout Unit:mm

