Desicription

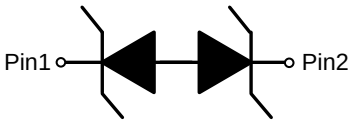
◆ This low-power TVS （Transient Voltage Suppressor)is mainly used for signal and power supply to protect the back-stage circuit from ESD(Electrostatic Discharge) and EFT(Electrical Fast Transients) and improve the reliability of the product, because its extremely small package is suitable for various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



SC-104

Features

◆ IEC61000-4-2(ESD):±30KV Max Air
±30KV Max Contact
◆ IEC61000-4-4(EFT):40A(5/50ns)
◆ IEC61000-4-5(Surge):9.0A（8/20us）
◆ Line capacitance:20 pF@1MHz
◆ Very low reverse current:I_R<0.2uA(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
ESD7U190TA	▪	**SC-104**	**8000/Tape&Reel**

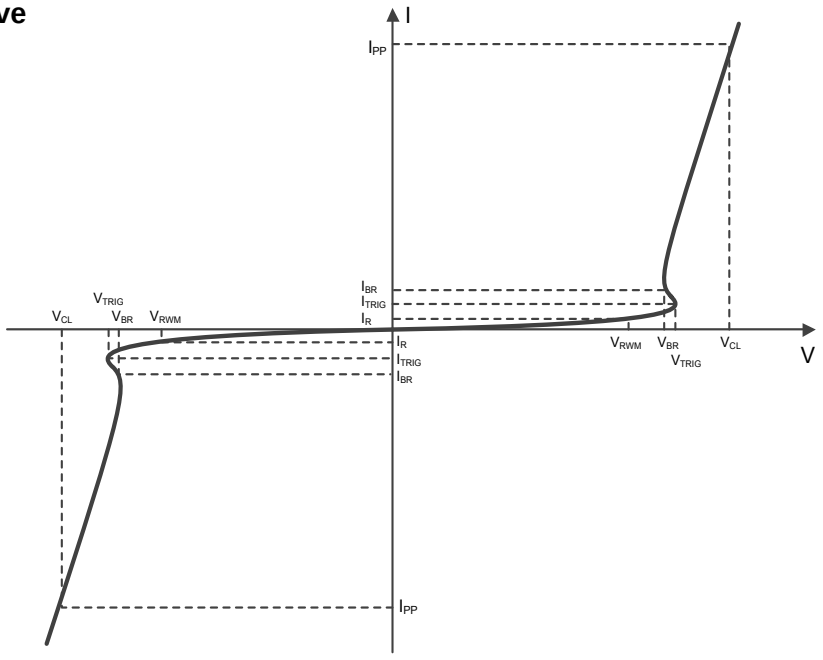
Electrical characteristic(T=25℃ unless otherwise specified)

Parameter	Symbol	Conditions	Min.	TYP.	Max.	Units
Reverse stand-off voltage	V_{RWM}				±7.0	V
Reverse leakage current	I_R	V_{RWM}=7V			0.2	uA
Reveres breakdown voltage	V_{BR}	I_T=1mA	7.5	8.2	9.5	V
Peak pulse current	I_{PP}	Vc Max (8/20us)	7.0	9.0		A
Clamping voltage	V_C	I_{PP}=1A(8/20us)		10.0		V
		I_{PP} =9A(8/20us)		12.0	14.0	V
Junction capacitance	C_J	V_R=0V f=1MHz		20.0	30.0	pF

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

Electrical performance curve

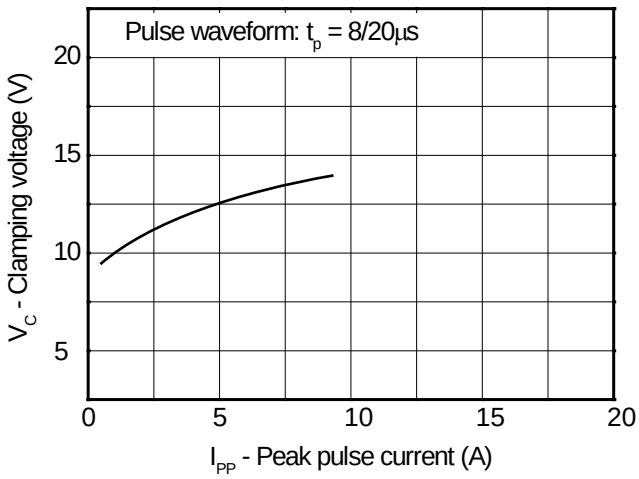
V_{RWM} Reverse stand-off voltage
I_R Reverse leakage current
V_{CL} Clamping voltage
I_{PP} Peak pulse current
V_{TRIG} Reverse trigger voltage
I_{TRIG} Reverse trigger current
V_{BR} Reverse breakdown voltage
I_{BR} Reverse breakdown current



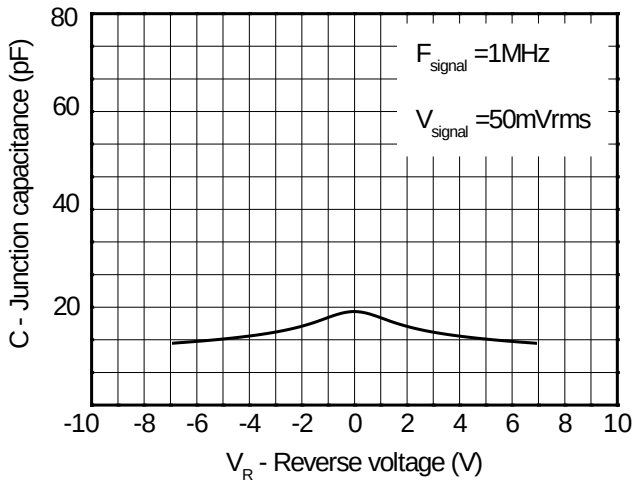
Maximum Rating

Rating	symbol	value	Units
Peak Pulse Current(tp=8/20us)	I_{PP}	9.0	A
ESD per IEC61000-4-2(Contact)	V_{ESD}	±30	KV
ESD per IEC61000-4-2(Air)		±30	
Operating Temperature	T_J	-40~125	℃
Storage Temperature	T_{STG}	-55~155	℃

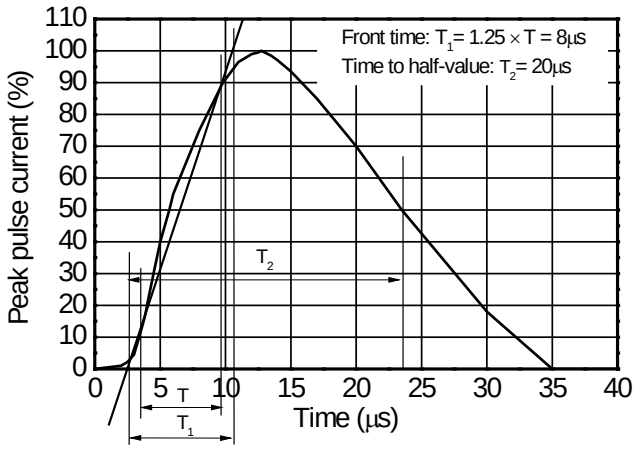
Typical characteristic



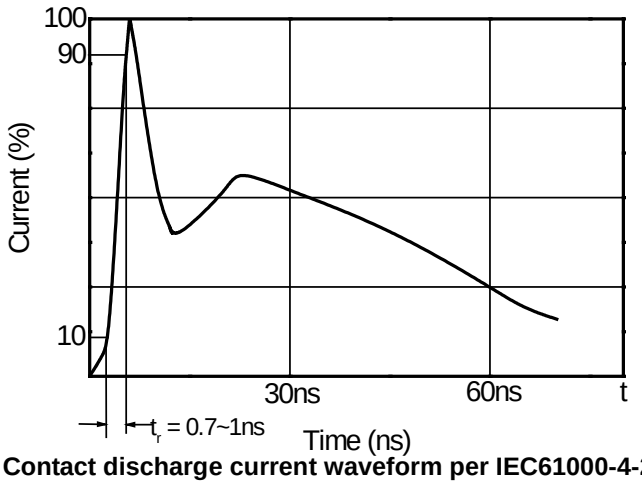
Clamping voltage vs. Peak pulse current



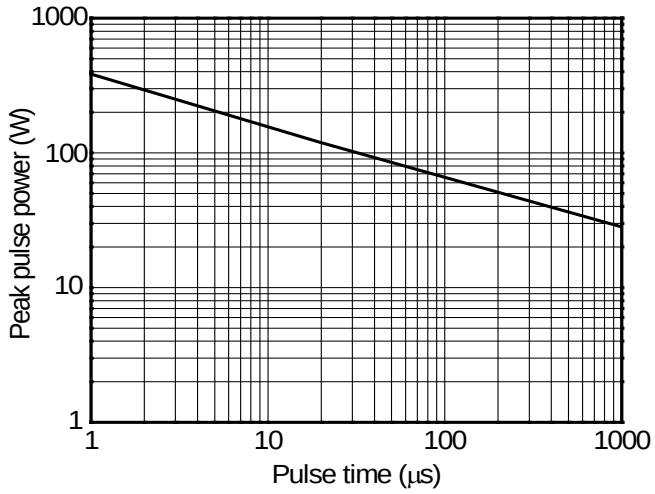
Capacitance vs. Reveres voltage



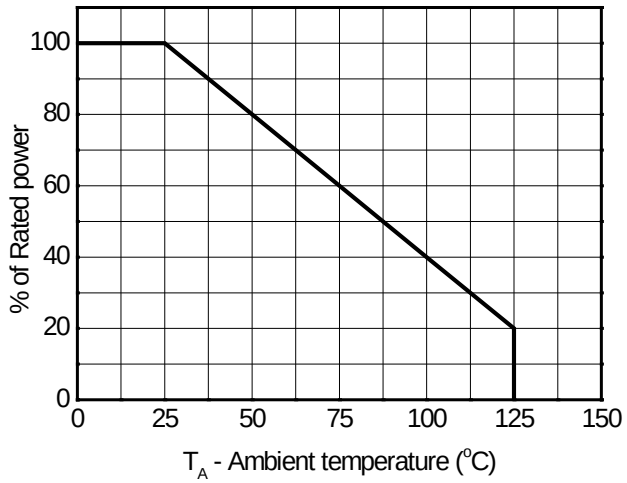
8/20μs waveform per IEC61000-4-5



Contact discharge current waveform per IEC61000-4-2



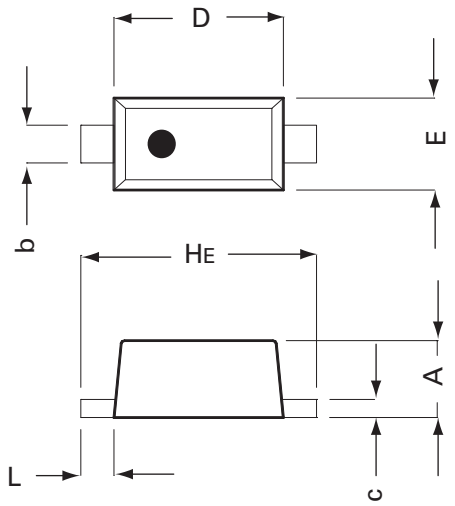
Non-repetitive peak pulse power vs. Pulse time



Power derating vs. Ambient temperature

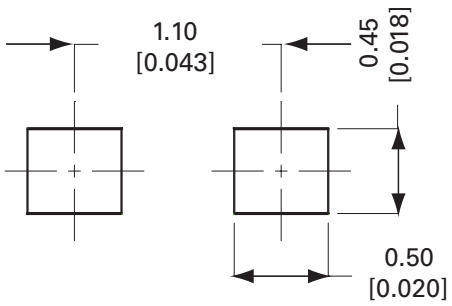
Package outline dimensions

SC-104



Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	0.46	0.65	0.018	0.026
b	0.23	0.35	0.009	0.014
c	0.08	0.13	0.003	0.005
D	0.90	1.10	0.035	0.043
E	0.58	0.64	0.023	0.025
HE	1.37	1.47	0.054	0.058
L	0.15	0.25	0.006	0.010

Recommened Mounting Pad Layout Unit:mm



Marking System

