

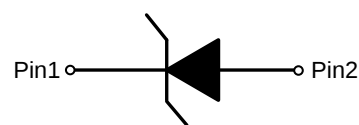
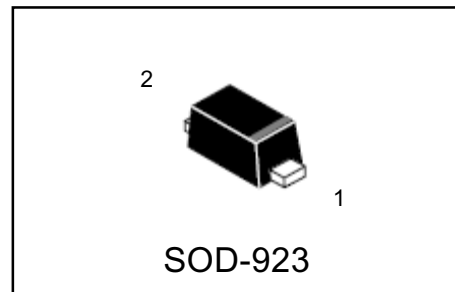
1-Line, Uni-directional, Transient Voltage Suppressor

Descriptions

The ESD12C150TR is a Uni-directional TVS (Transient Voltage Suppressor). It is specifically designed to protect sensitive electronic components that may be subjected to ESD (Electrostatic Discharge), EFT (Electrical Fast Transients) and Lightning. It is particularly well-suited for cellular phones, portable device, digital cameras, power supplies and many other portable applications because of its small package and low weight.

The ESD12C150TR may be used to provide ESD protection up to 20KV Air, 15KV contact compliance to IEC61000 -4-2, and withstand peak pulse current up to 6.0 A(8/20 μ s) according to IEC61000-4-5.

The ESD12C150TR is available in SOD-923 package. Standard products are Pb-free and Halogen-free.



Circuit diagram

Features

- Stand-off voltage: ± 12 V Max
- Transient protection for each line according to IEC61000-4-2 (ESD): ± 20 KV Air, ± 15 KV contact
- IEC61000-4-5 (Surge): 6.0 A (8/20 μ s)
- Solid-state silicon technology
- Low leakage current

Order information

Device	Marking	Package	Shipping
ESD12C150TR	H	SOD-923	8000/Tape&Reel

Applications

- Power supply protection
- Power management

Absolute maximum ratings

Parameter	Symbol	Rating	Unit
Peak pulse power (tp = 8/20μs)	P _{pk}	140	W
ESD according to IEC61000-4-2 air discharge	V _{ESD}	±20	kV
ESD according to IEC61000-4-2 contact discharge		±15	
Junction temperature	T _J	125	°C
Operating temperature	T _{OP}	-40~85	°C
Lead temperature	T _L	260	°C
Storage temperature	T _{STG}	-55~150	°C

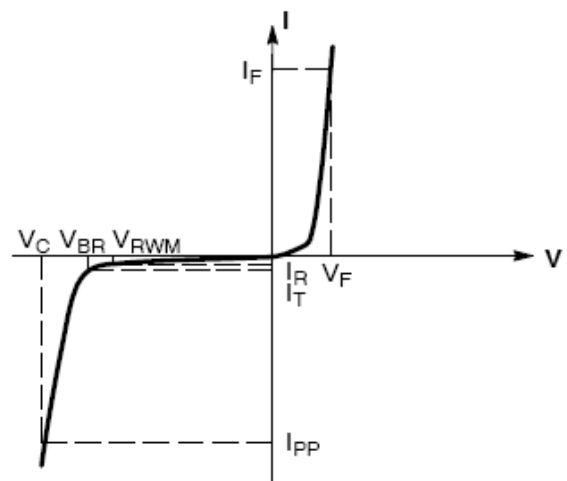
Electrical characteristics (TA=25 °C ,unless otherwise noted)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Reverse stand-off voltage	V _{RWM}				12	V
Reverse leakage current	I _R	V _{RWM} = 12V			0.1	uA
Reveres breakdown voltage	V _{BR12}	I _T =1mA	13			V
Clamping voltage	V _C	I _{pp} =1A tp=8/20us		18		V
		I _{pp} =6 A tp=8/20us		23		V
Junction capacitance	C _J	V _R = 0V, f = 1MHz		15	25	pF

ELECTRICAL CHARACTERISTICS

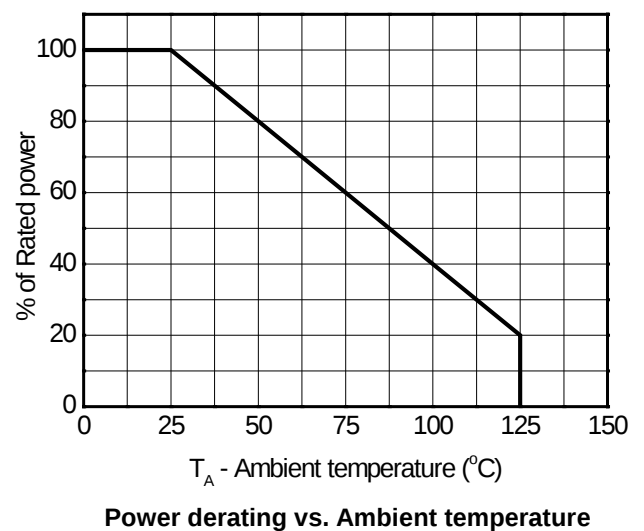
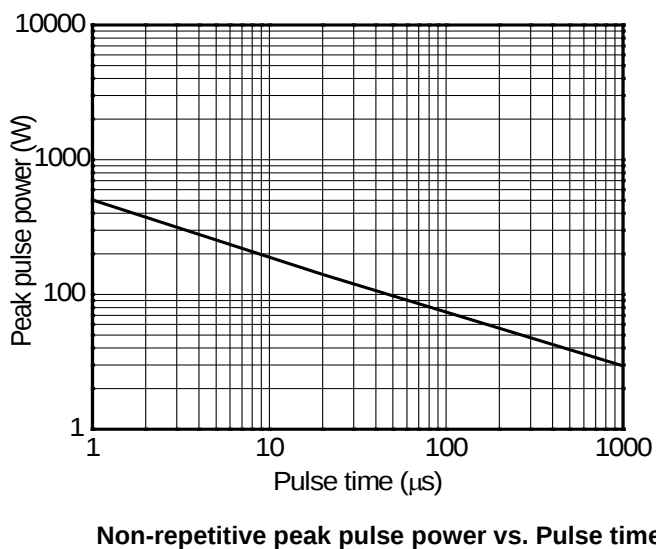
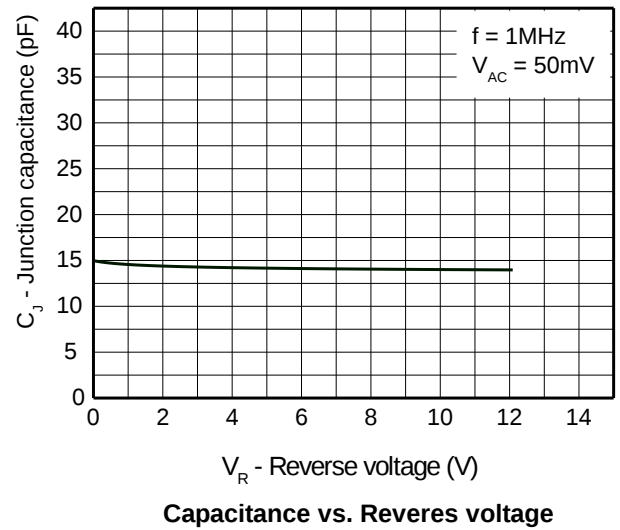
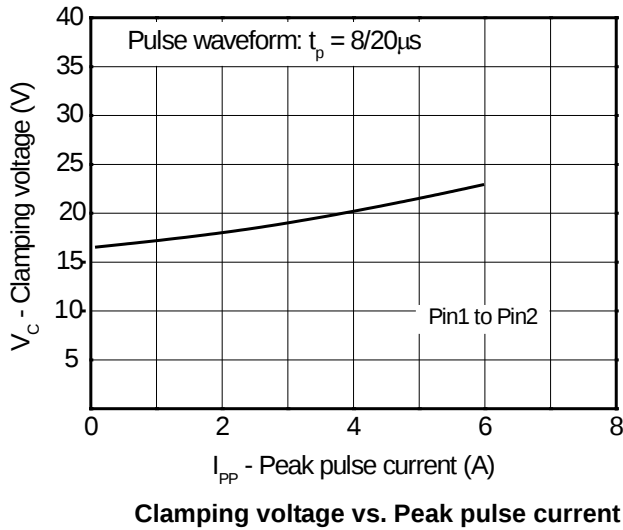
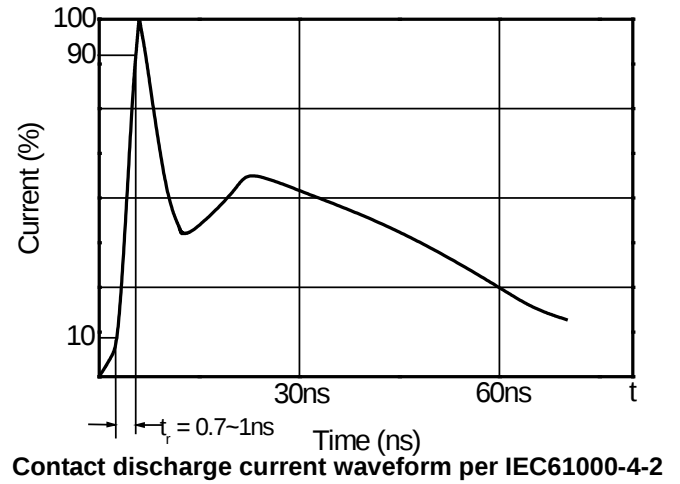
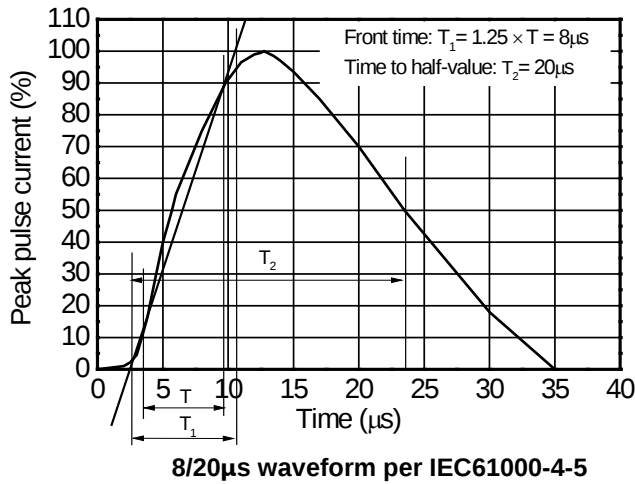
(T_A = 25°C unless otherwise noted)

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



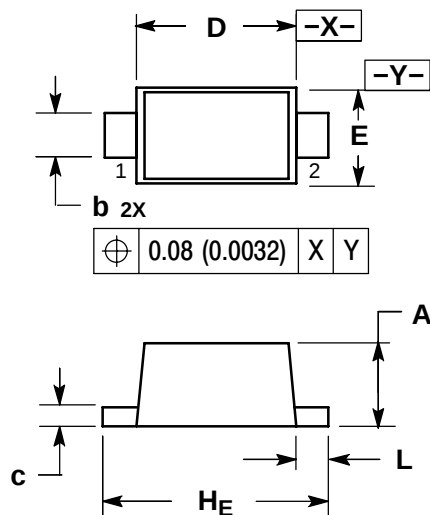
Uni-Directional TVS

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



Package outline dimensions

SOD-923

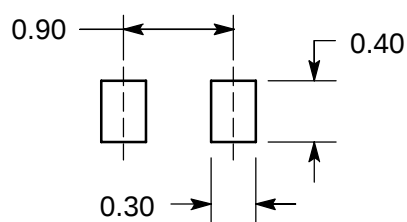


NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.

DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.34	0.37	0.40	0.013	0.015	0.016
b	0.15	0.20	0.25	0.006	0.008	0.010
c	0.07	0.12	0.17	0.003	0.005	0.007
D	0.75	0.80	0.85	0.030	0.031	0.033
E	0.55	0.60	0.65	0.022	0.024	0.026
H _E	0.95	1.00	1.05	0.037	0.039	0.041
L	0.05	0.10	0.15	0.002	0.004	0.006

SOLDERING FOOTPRINT*



DIMENSIONS: MILLIMETERS