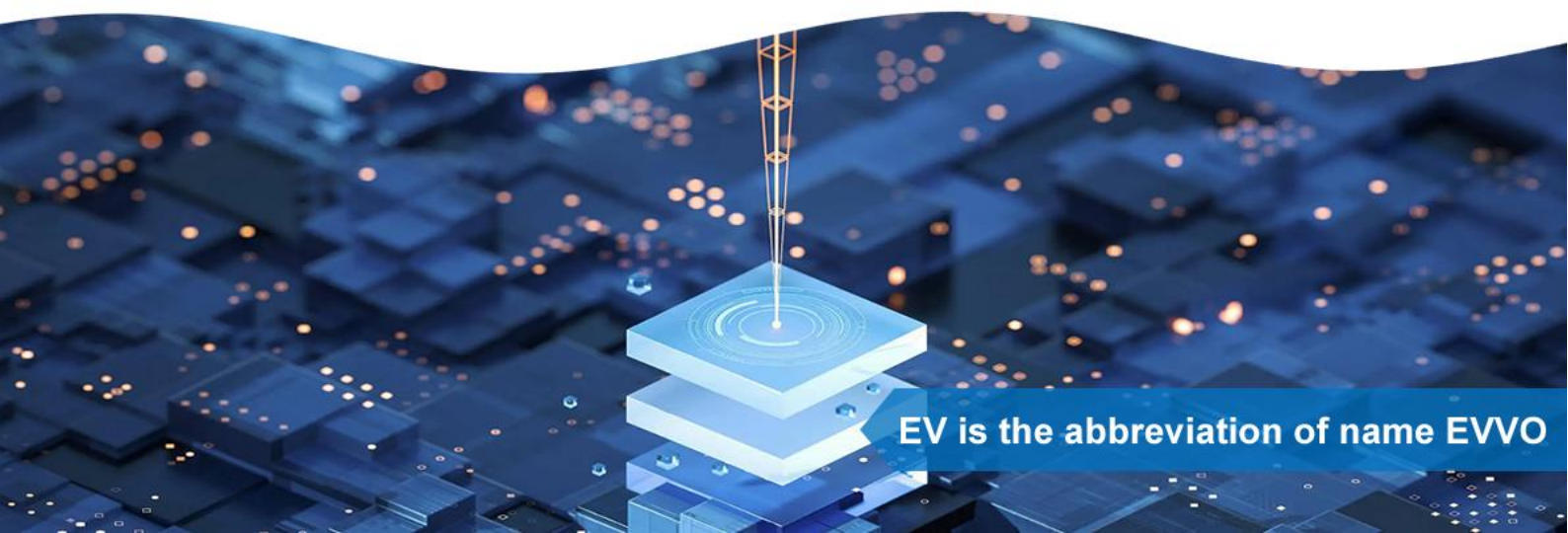
EVVOSEMI®

THINK CHANGE DO

ESD TVS MOS LDO Diode Sensor DC-DC

Product Specification

Domestic Part Number	ESD56151Wxx
Overseas Part Number	ESD56151Wxx
Equivalent Part Number	ESD56151Wxx



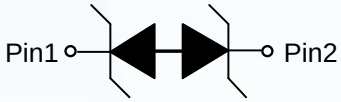
1-Line,Bi-directional,Transient Voltage Suppressor

Descriptions

The ESD56151Wxx is a transient voltage suppressor designed to protect power interfaces. It is suitable to replace multiple discrete components in portable electronics.

The ESD56151Wxx is specifically designed to protect power lines.

The ESD56151Wxx is available in SOD-323 package. Standard products are Pb-free and Halogen-free.



Circuit diagram

Features

- Reverse stand-off voltage: 4.5V ~ 5V
- Surge protection according to IEC61000-4-5 see Table 4
- ESD protection according to IEC61000-4-2 ±30kV (contact and air discharge)
- Low clamping voltage
- Solid-state silicon technology

Applications

- Power supply protection
- Power management

Absolute maximum ratings

Parameter	Symbol	Rating	Unit
Peak pulse power (tp = 8/20μs)	P_{pk}	2400	W
ESD according to IEC61000-4-2 air discharge	V_{ESD}	±30	kV
ESD according to IEC61000-4-2 contact discharge		±30	
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

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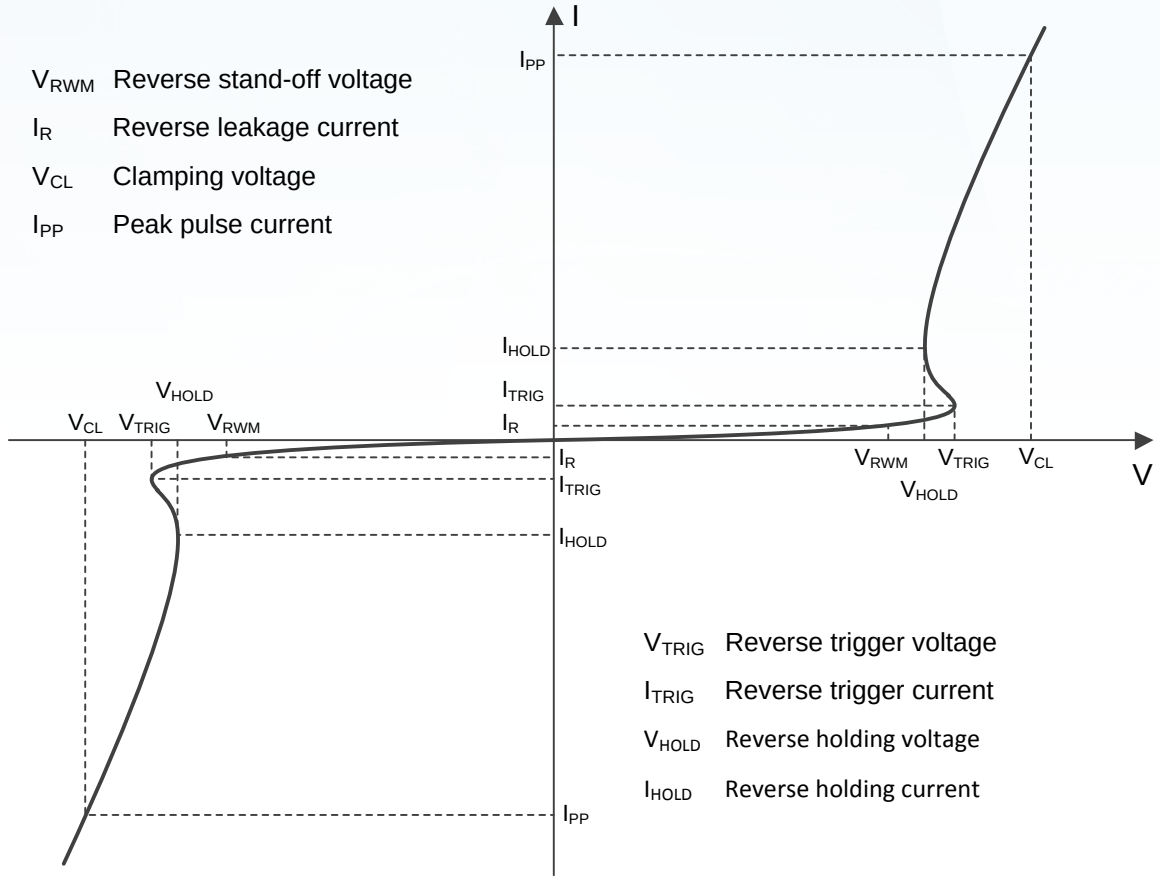
Electrical characteristics (T_A = 25°C, unless otherwise noted)



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_{HOLD} Reverse holding voltage

I_{HOLD} Reverse holding current

Definitions of electrical characteristics

1-Line,Bi-directional,Transient Voltage Suppressor

Type number	Reverse Stand-off Voltage V_{RWM} (V)	Breakdown voltage V_{BR}(V) I_{BR} = 1mA			Reverse leakage current I_{RM}(μA) at V_{RWM}		Junction capacitance F = 1MHz, VR=0V (pF)	
	Max.	Min.	Typ.	Max.	Typ.	Max.	Typ.	Max.
ESD56151W04	4.5	4.7	5.3	6.4	-	0.1	280	350
ESD56151W05	5.0	5.3	6.3	7.1	-	0.1	400	450

Type number	Rated peak pulse current I_{PP} (A)[1)3)]	Clamping voltage V_{CL}(V) at I_{PP}(A)[1)3)]	Clamping voltage V_{CL}(V) at I_{PP} = 16A, t_p = 100ns[2)3)]	Clamping voltage V_{CL}(V) at V_{ESD} = 8kV[2)3)]
ESD56151W04	150	16	6.5	7.0
ESD56151W05	145	16	6.7	7.5

Notes:

1) Non-repetitive current pulse, according to IEC61000-4-5. (8/20μs current waveform)
2) Non-repetitive current pulse, according to IEC61000-4-2.
3) Measured from pin 1 to pin 2.

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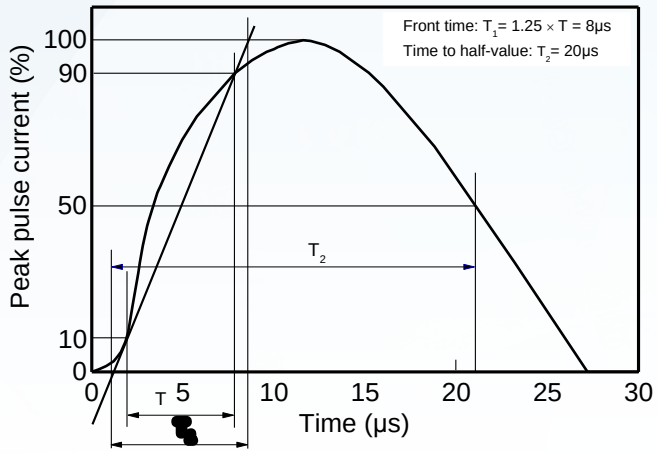
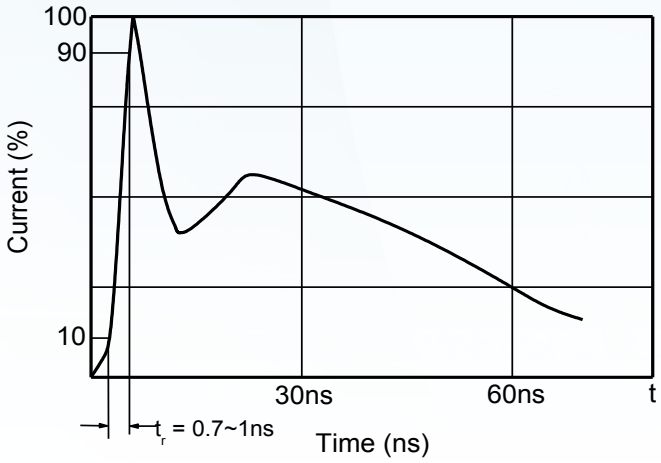
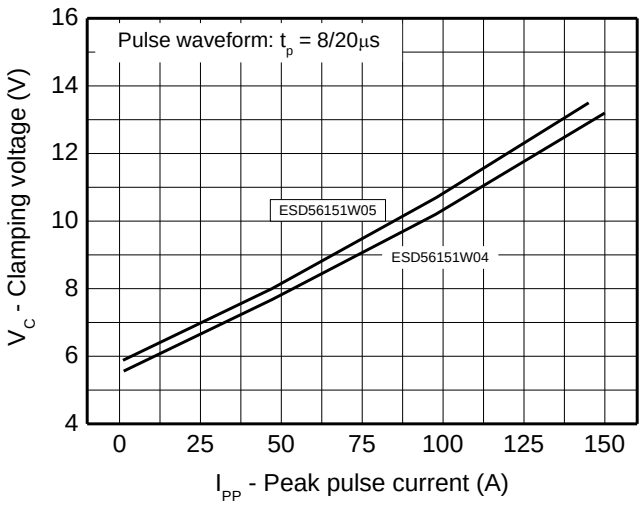


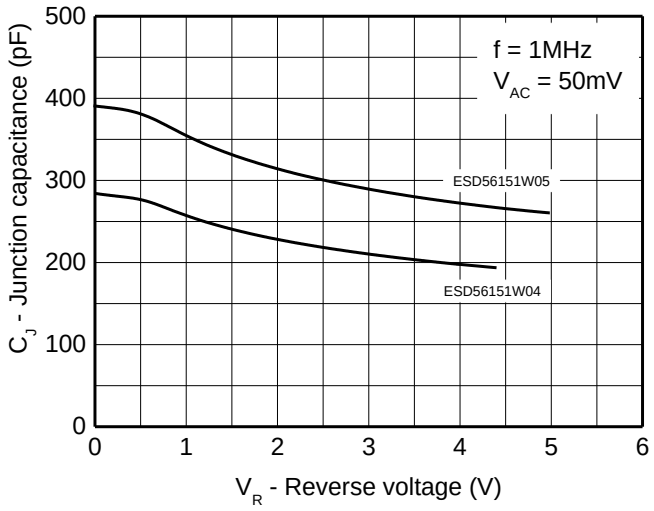
8/20μs waveform per IEC61000-4-5



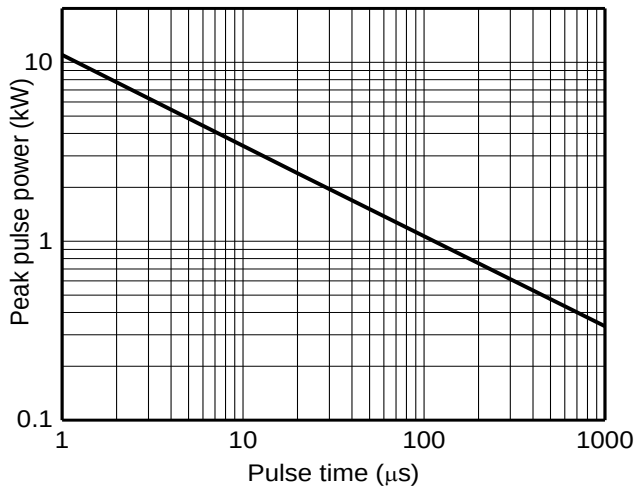
Contact discharge current waveform per IEC61000-4-2



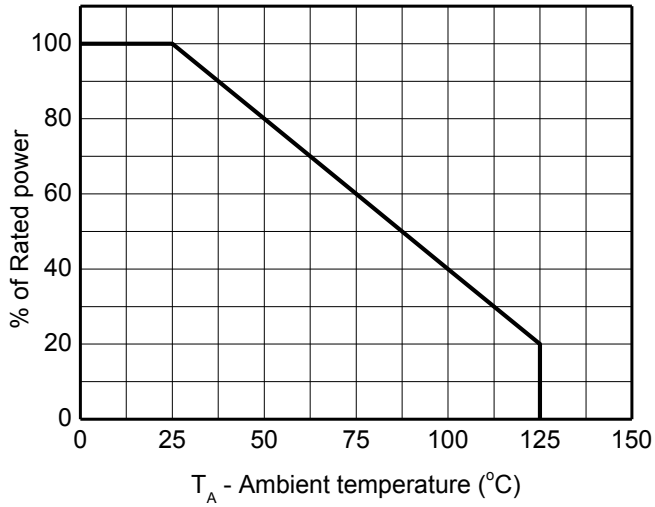
Clamping voltage vs. Peak pulse current



Capacitance vs. Reverse voltage



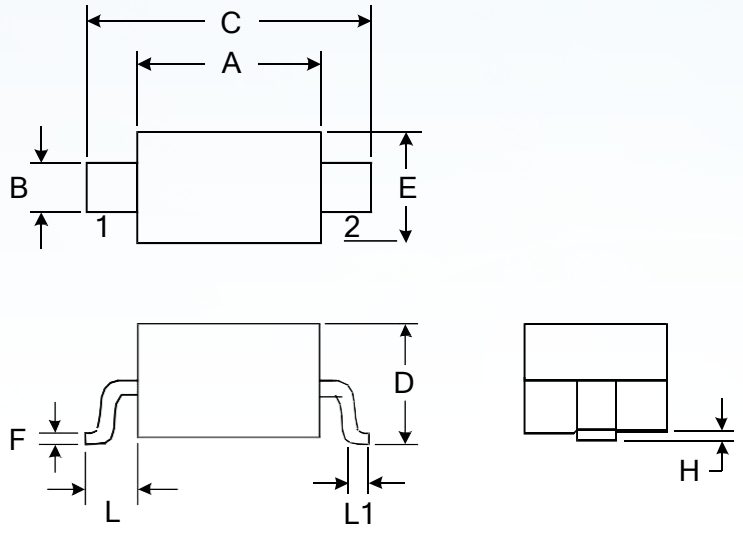
Non-repetitive peak pulse power vs. Pulse time



Power derating vs. Ambient temperature

1-Line,Bi-directional,Transient Voltage Suppressor

Outline Drawing - SOD-323



DIMENSIONS				
SYMBOL	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	1.600	1.800	0.063	0.071
B	0.250	0.350	0.010	0.014
C	2.500	2.700	0.098	0.106
D		1.000		0.039
E	1.200	1.400	0.047	0.055
F	0.080	0.150	0.003	0.006
L	0.475 REF		0.019REF	
L1	0.250	0.400	0.010	0.016
H	0.000	0.100	0.000	0.004

Marking

Ordering information

Order code	Package	Baseqty	Delivery mode
ESD56151W04	SOD-323	3000	Tape and reel
ESD56151W05	SOD-323	3000	Tape and reel

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