

Transient Voltage Suppressors

FEATURES

- ◆Uni-directional ESD protection of one line
- ◆Reverse stand-off voltage:36V
- ◆Low reverse clamping voltage
- ◆Low leakage current
- ◆Fast response Time
- ◆JESD22-A114-B ESD Rating of class 3B per human body model
- ◆IEC 61000-4-2 Level 3 ESD protection

APPLICATIONS

- ◆Computers and peripherals
- ◆Digital Cameras
- ◆Audio and video equipment
- ◆Cellular handsets and accessories
- ◆Portable electronics
- ◆Other electronics equipments communication systems

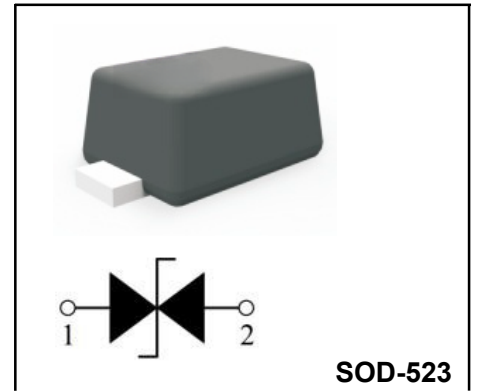
ABSOLUTE MACIMUM RATING

Parameter	Symbol	Rating	Unit
ESD per IEC61000-4-2(Air)	V_{ESD}	±8	Kv
ESD per IEC61000-4-2(Contact)		±8	
JESD22-A114-B ESD Voltage Per Human Body Mode(note 1)		±15	
ESD Voltage Machine Model(note 1)		±0.4	
IEC 61000-4-4(EFT)		40	A
Peak Pulse Power(note 2)	P_{PP}	240	W
Peak Pulse Current(note 2)	I_{PP}	3.0	A
Junction Temperature	T_j	150	°C
Storage temperature range	T_{stg}	-55 ~ +15 0	°C
Lead Soldering temperature-Maximum (10 second Duration)	I_L	260	°C

(1). Device stressed with ten non-repetitive ESD pulses.

(2). Non-repetitive current pulse 8/20us exponential decay waveform according to IEC61000-4-5.

Pinning



Marking Code

ESD5Z36C	36
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Electrical Characteristics

(Ta= 25°C unless otherwise noted, VF=0.9V Max.@ IF=10mA for all types).

Parameter	Symbol	Test Conditions	Criterion			Unit
			Min	Typ	Max	
Reverse stand off voltage(1)	V_{RWM}		-	-	36	V
Reverse leakage current	I_R	$V_{RWM} = 36 V; TA = 25 ^\circ C$	-	-	1	μA
Breakdown voltage	V_{BR}	$I_T = 1mA$	40	-	48	V
Clamping voltage(2)	V_C	$I_{PP}=3.0A$	-	-	80	V
Forward voltage	V_F	$I_F=10mA$	-	-	0.9	V
Junction capacitance	C_J	$V_R = 0V, f = 1 MHz$	-	30	-	pF

(1). Other voltages available upon request.

(2). Non-repetitive current pulse 8/20 μs exponential decay waveform according to IEC61000-4-5

Surge current waveform per Figure 1.

2. VBR is measured with a pulse test current I_T at an ambient temperature of 25°C

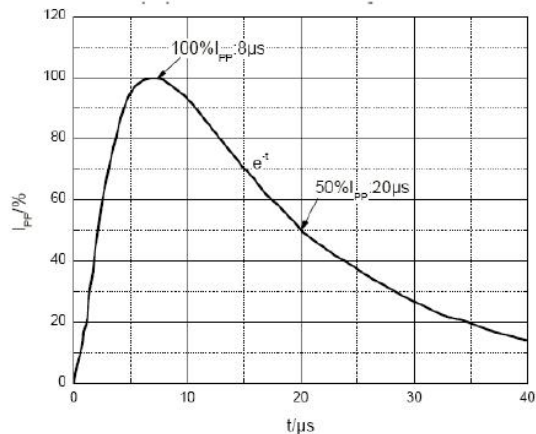
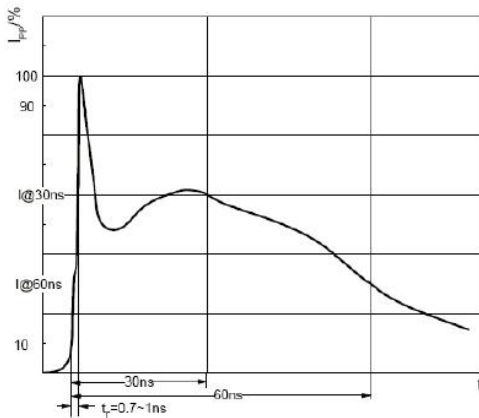
ESD standards compliance

IEC61000-4-2 Standard

Contact Discharge		Air Discharge	
Level	Test Voltage kV	Level	Test Voltage kV
1	2	1	2
2	4	2	4
3	6	3	8
4	8	4	15

JESD22-A114-B Standard

ESD Class	Human Body Discharge V
0	0~249
1A	250~499
1B	500~999
1C	1000~1999
2	2000~3999
3A	4000~7999
3B	8000~15999

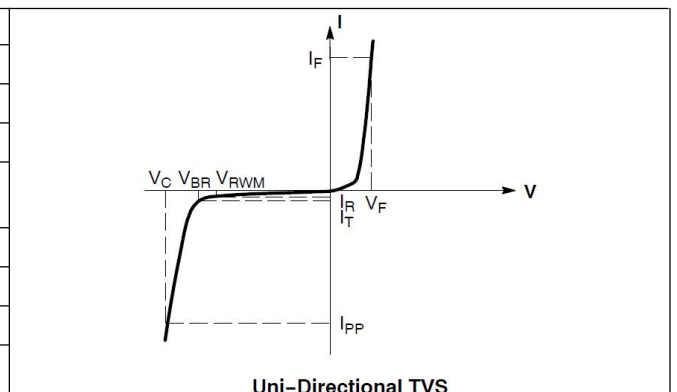


ESD pulse waveform according to IEC61000-4-2

8/20 μs pulse waveform according to IEC 61000-4-5

Electrical Characteristics(Ratings at 25°C ambient temperature unless otherwise specified).

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

Ordering information

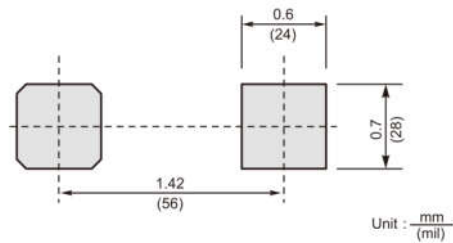
Package	Packing Description	Packing Quantity
SOD-523	Tape/Reel, 7" reel	3000PCS/Reel 120000PCS/Carton

Package Dimensions

SOD-523

Dim.	Millimeter(mm)		mil	
	Min.	Max.	Min.	Max.
A	0.51	0.77	20	30
e	0.25	0.35	10	14
C	0.08	0.15	3	6
D	1.10	1.30	43	51
E	0.75	0.99	30	39
HE	1.50	1.70	59	67
N	0.35ref		14ref	
L	0.2ref		8ref	
P	R0.1 ALL ROUND		R4.0 ALL ROUND	
∠	10°			

The recommended mounting pad size



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