

Features

- ◇ 150W (8x20us) Peak Pulse Power ◇
- Low Clamping Voltage
- ◇ SOD-323 Package
- ◇ RoHS Compliant
- ◇ Matte Tin Lead finish (Pb-Free) ◇
- Protect One I/O or Power Line
- ◇ Meet IEC61000-4-2 Level 4:
 - Contact Discharge > 25kV
 - Air Discharge > 25kV



SOD-323

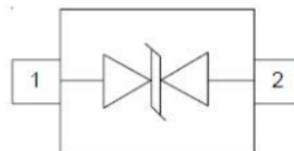
Applications

- ◇ Smart Phones
- ◇ Laptop Computers
- ◇ Portable Electronics

Circuit Diagram



PIN Diagram



MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Limit	Unit
IEC 61000-4-2 ESD Voltage	$V_{\text{ESD}}^{(1)}$	± 25	kV
Air Model			
Contact Model		± 25	
JESD22-A114-B ESD Voltage		± 16	
ESD Voltage	Machine Model	± 0.4	
Peak Pulse Power	$P_{\text{PP}}^{(2)}$	150	W
Peak Pulse Current	$I_{\text{PP}}^{(2)}$	10	A
Lead Solder Temperature – Maximum (10 Second Duration)	T_L	260	$^{\circ}\text{C}$
Junction Temperature	T_j	150	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	$-55 \sim +150$	$^{\circ}\text{C}$

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

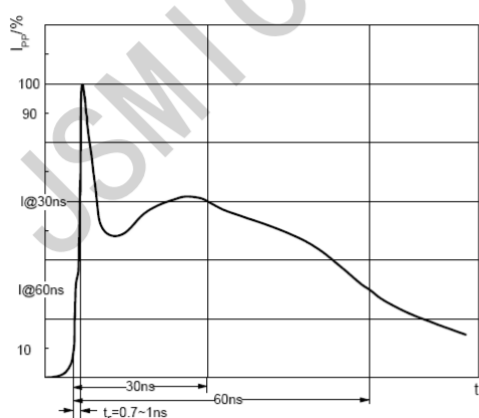
(2).Non-repetitive current pulse 8/20 μs exponential decay waveform according to IEC61000-4-5.

ESD standards compliance
IEC61000-4-2 Standard

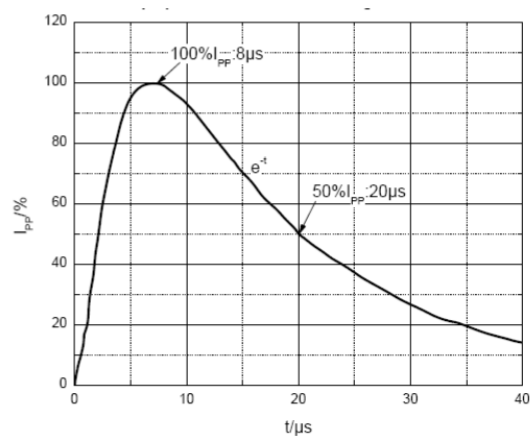
Contact Discharge		Air Discharge	
Level	Test Voltage kV	Level	Test Voltage kV
1	2	1	2
2	4	2	4
3	6	3	8
4	8	4	15

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



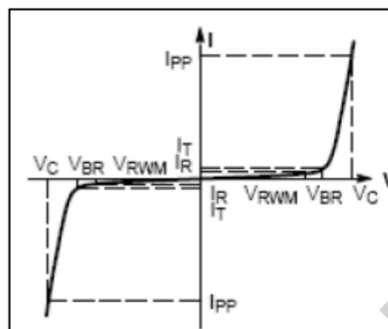
ESD pulse waveform according to IEC61000-4-2



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

ELECTRICAL PARAMETER

Symbol	Parameter
V_C	Clamping Voltage @ I_{PP}
I_{PP}	Peak Pulse Current
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_R	Reverse Leakage Current @ V_{RWM}
V_{RWM}	Reverse Standoff Voltage

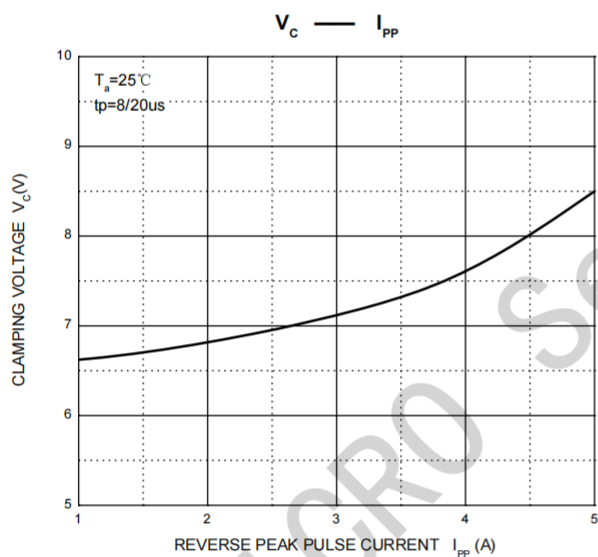
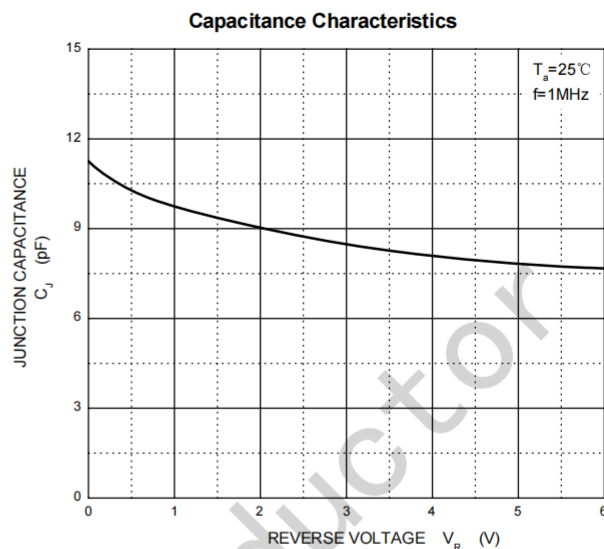
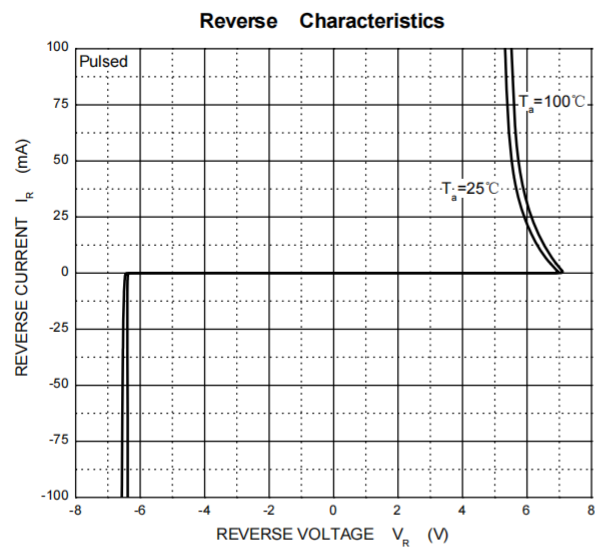

V-I characteristics for a Bi-directional TVS
ELECTRICAL CHARACTERISTICS($T_a=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse stand off voltage	$V_{RWM}^{(1)}$				3.3	V
Reverse leakage current	I_R	$V_{RWM}=3.3\text{V}$			1	μA
Breakdown voltage	$V_{(BR)}$	$I_T=1\text{mA}$	5.8	6.7	7.5	V
Clamping voltage	$V_C^{(2)}$	$I_{PP}=10\text{A}$			15	V
Junction capacitance	C_J	$V_R=0\text{V}, f=1\text{MHz}$		10	15	pF

(1).Other voltages available upon request.

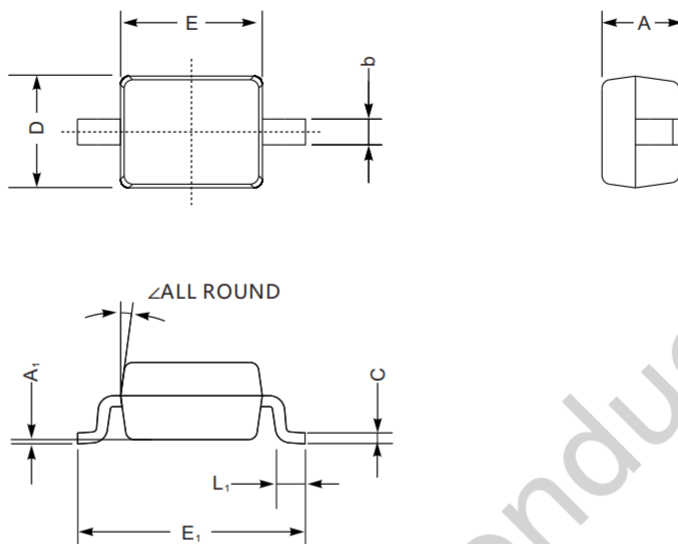
(2).Non-repetitive current pulse 8/20 μs exponential decay waveform according to IEC61000-4-5

TYPICAL CHARACTERISTICS



Package Information

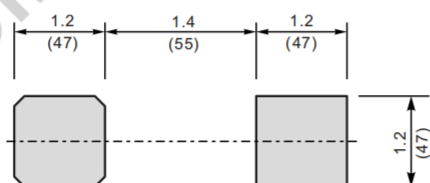
SOD-323



SOD-323 mechanical data

UNIT		A	C	D	E	E ₁	b	L ₁	A ₁	∠
mm	max	1.1	0.15	1.4	1.8	2.75	0.4	0.45	0.2	9°
	min	0.8	0.08	1.2	1.4	2.55	0.25	0.2	—	
mil	max	43	5.9	55	70	108	16	16	8	
	min	32	3.1	47	63	100	9.8	7.9	—	

The recommended mounting pad size



Unit: $\frac{\text{mm}}{(\text{mil})}$