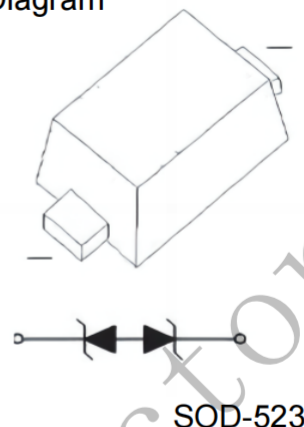


■Features:

- ◆100W(8x20us) Peak Pulse Power
- ◆Low Clamping Voltage
- ◆SOD-523 Package
- ◆RoHS Compliant
- ◆Matte Tin Lead finish(Pb-Free)
- ◆Protect One I/O or Power Line
- ◆Meet IEC61000-4-2Level4:ContactDischarge>20kV
AirDischarge>2 0kV

CircuitDiagram

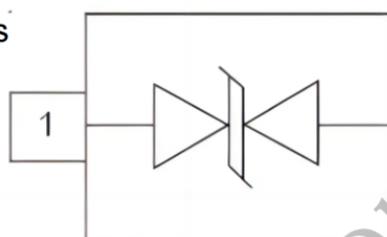


SOD-523

■Applications:

- ◆SmartPhones
- ◆LaptopComputers
- ◆PortableElectronics

Pin 1 ○ ————>>> Pin 2



PINDiagram

■Orderinginformation:

Device	Package	ReelSize	Qty/Reel
CESDB5V0D5	SOD-523	7inch	3000

■MaximumRatings(Ta=25℃)

Symbol	Parameter	Value	Unit
TJ	JunctionTemperature	-55to+150	℃
TSTG	StorageTemperature	-55to+150	℃
IppMax	MaximumPeakPulseCurrent	7	A
PPK	PeakPulsePower	100	W

- (1) Device stressed with ten non-repetitive ESD pulses.
- (2) Non-repetitive current pulse 8/20 μ s exponential decay waveform according to IEC61000-4-5.

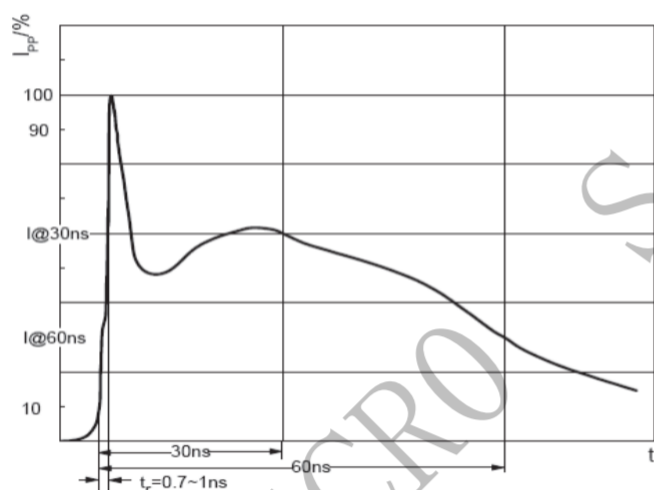
ESD standards compliance

IEC61000-4-2 Standard

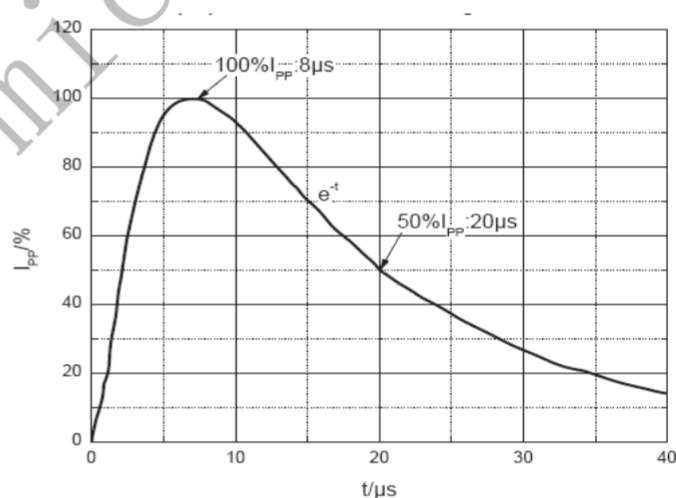
Contact Discharge		Air Discharge	
Level	Test Voltage kV	Level	Test Voltage kV
1	2	1	2
2	4	2	4
3	6	3	8
4	8	4	15

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



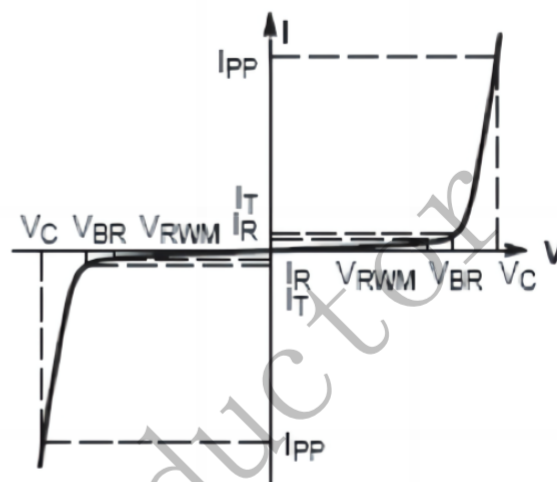
ESD pulse waveform according to IEC61000-4-2



8/20 μ s 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

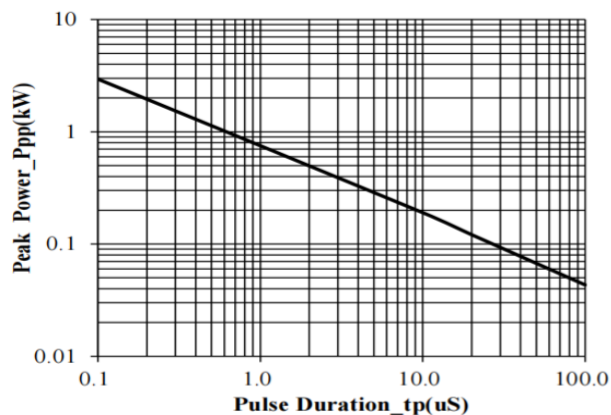


V-I characteristics for a Bi-directional TVS

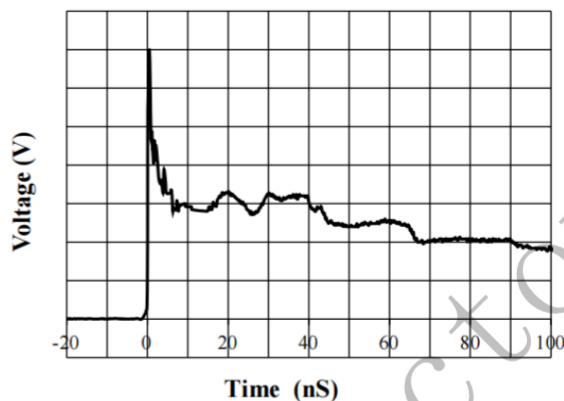
■ Electrical Characteristics ($T_a=25^\circ\text{C}$)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
VRWM	Reverse Working Peak Voltage				5.0	V
VBR	Reverse Breakdown Voltage	$I_T=1\text{mA}$	6.0	7.0	8.	V
IR	Reverse Leakage Current	$V_{RWM}=5.0\text{V}$			51	μA
VC1	Clamping Voltage	$I_{PP}=1\text{A}(8/20\mu\text{s})$			8	V
VC2	Clamping Voltage	$I_{PP}=7\text{A}(8/20\mu\text{s})$		11	16	V
Ipp	Peak Pulse Current	$t_p=8/20\mu\text{s}$			7	A
CJ	Capacitance	$V_R=0\text{V}, f=1\text{MHz}$		12	18	pF

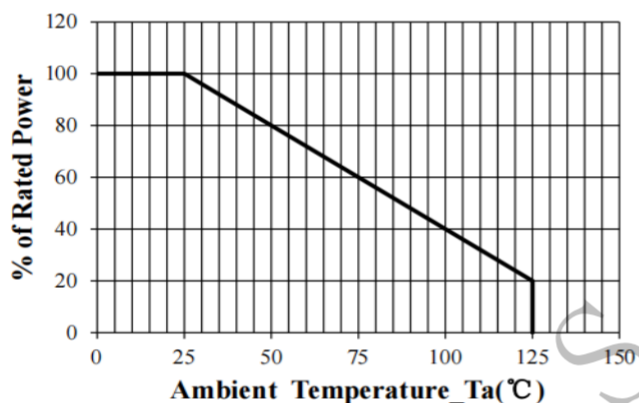
■ *Typical Performance Characteristics (T_A = 25°C unless otherwise Specified)*



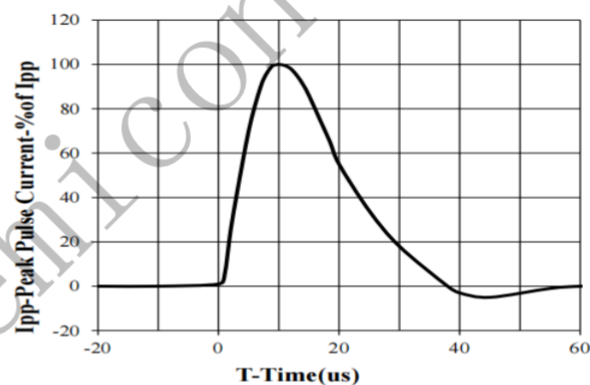
Peak Pulse Power vs. Pulse Time



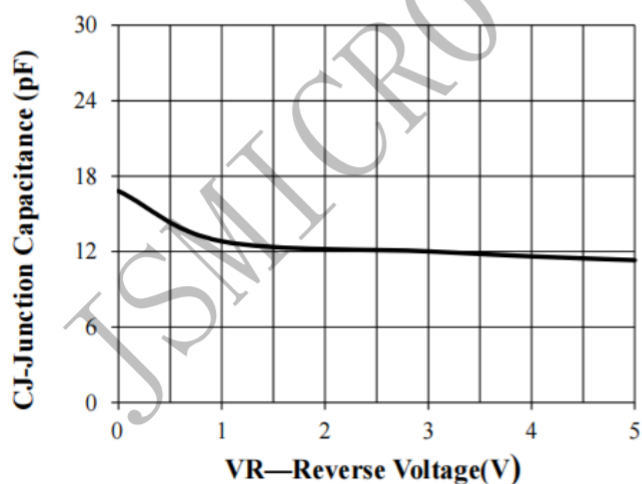
IEC61000-4-2 Pulse Waveform



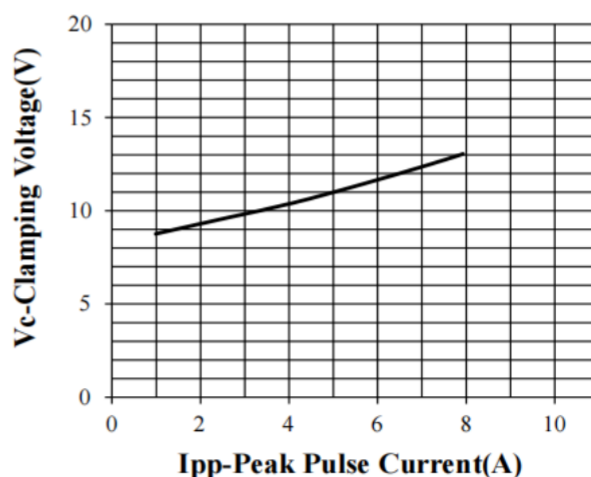
Power Derating Curve



8 X 20us Pulse Waveform

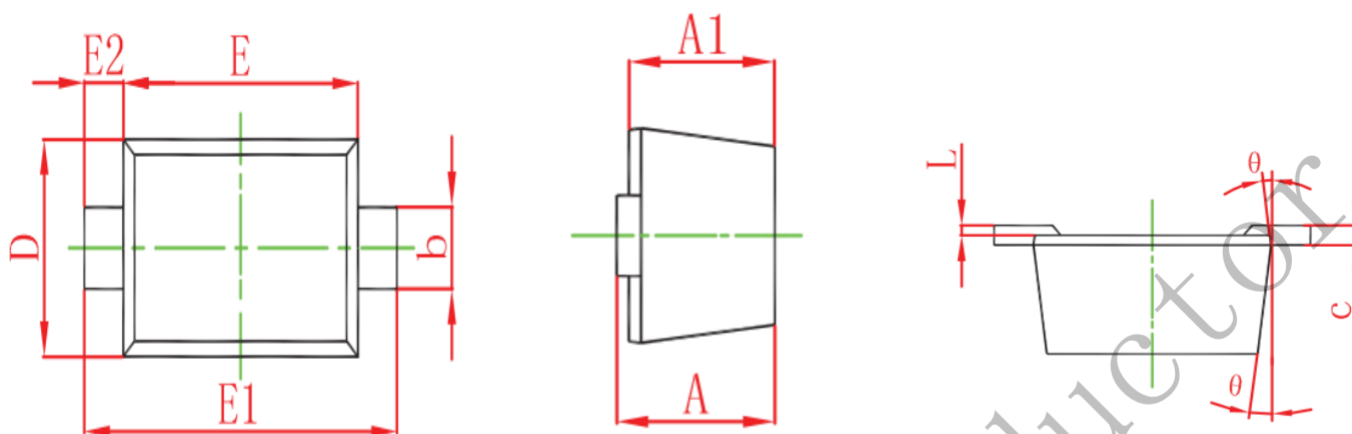


Junction Capacitance vs. Reverse Voltage



Clamping Voltage vs. Peak Pulse Current

■ SOD-523 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.510	0.770	0.020	0.031
A1	0.500	0.700	0.020	0.028
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	0.750	0.850	0.030	0.033
E	1.100	1.300	0.043	0.051
E1	1.500	1.700	0.059	0.067
E2	0.200 REF		0.008 REF	
L	0.010	0.070	0.001	0.003
θ	7° REF		7° REF	

■ SOD-523 Suggested Pad Layout

Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

