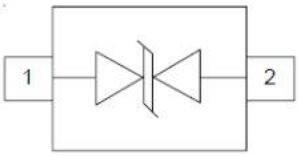
Features

- 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 IEC61000-4-2 Level 4:
  Contact Discharge>20kV
  Air Discharge>2 0kV

Circuit Diagram

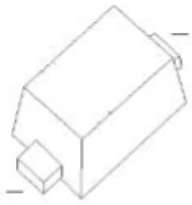
PIN Diagram



Applications

- Smart Phones
- Laptop Computers
- Portable Electronics

Package



SOD-523

Ordering information

Device	Package	Reel Size	Qty / Reel
ESD5Z5C	SOD-523	7 inch	3000

Maximum Ratings (Ta = 25℃)

Parameter	Symbol	Value	Unit
Junction Temperature	T_J	-55 to +150	℃
Storage Temperature	T_{STG}	-55 to +150	℃
Maximum Peak Pulse Current	I_{PP} MAX	7	A
Peak Pulse Power	P_{PK}	100	W

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

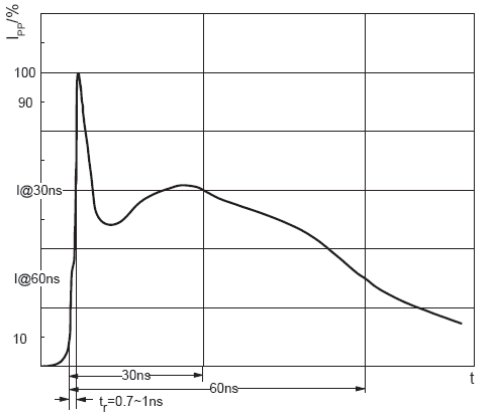
ESD standards compliance

IEC61000-4-2 Standard

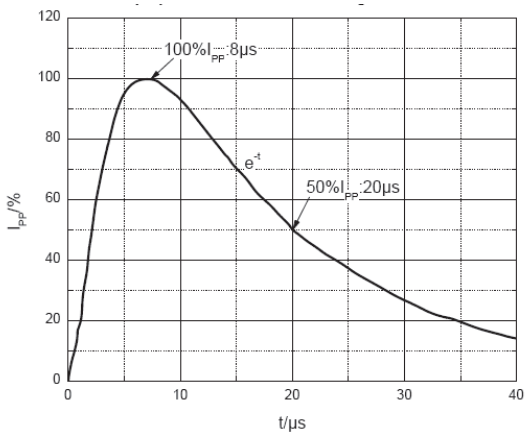
Contact Discharge		Air Discharge	
Level	Test Voltage kV	Level	Test Voltage kV
1	2	1	2
2	4	2	4
3	6	3	8
4	8	4	15

JESD22-A114-B Standard

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



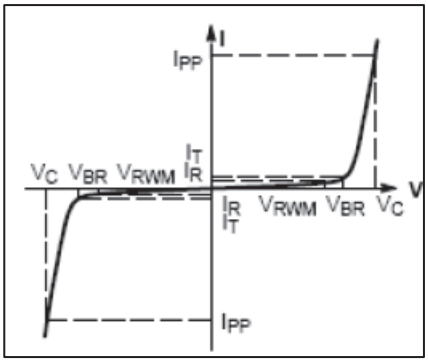
ESD pulse waveform according to IEC61000-4-2



8/20μs 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

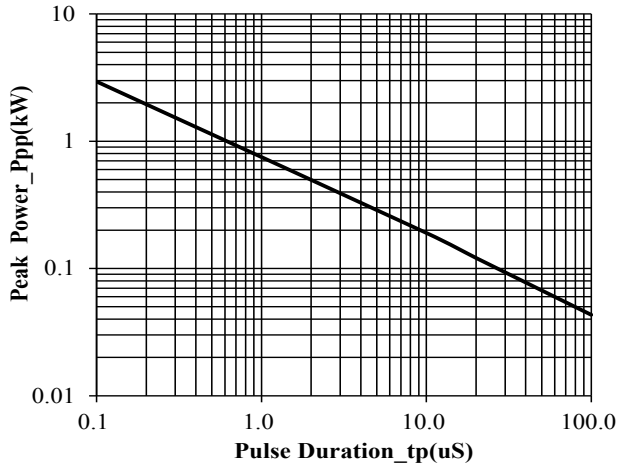


V-I characteristics for a Bi-directional TVS

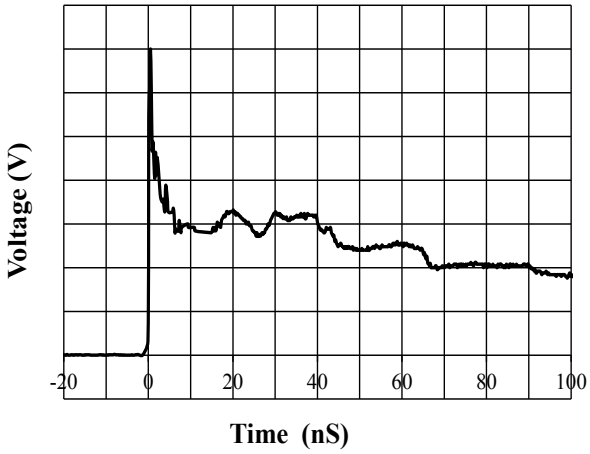
Electrical Characteristics(Ta=25℃)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse Working Peak Voltage	V_{RWM}				5.0	V
Reverse Breakdown Voltage	V_{BR}	I_T = 1mA	6.0	7.0	8.5	V
Reverse Leakage Current	I_R	V_{RWM} = 5.0V			1	μA
Clamping Voltage	V_{C1}	I_{PP} = 1A (8/20μs)			8	V
Clamping Voltage	V_{C2}	I_{PP} =7A(8/20μs)		11	16	V
Peak Pulse Current	I_{PP}	‘tp = 8/20μs			7	A
Capacitance	C_J	V_R=0V,f=1MHz		12	18	pF

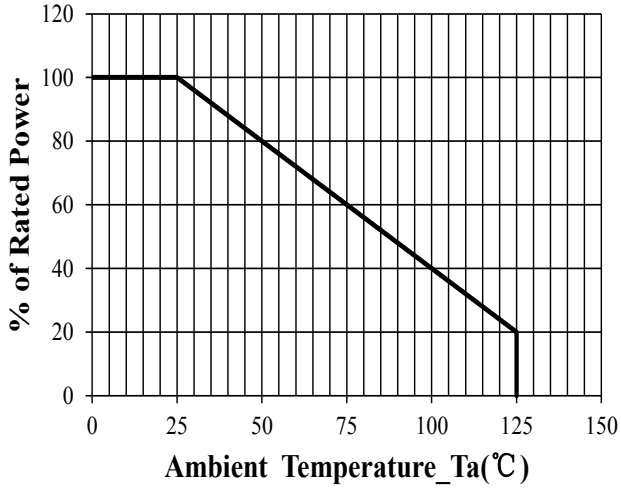
Typical Performance Characteristics (T_A=25°C unless otherwise Specified)



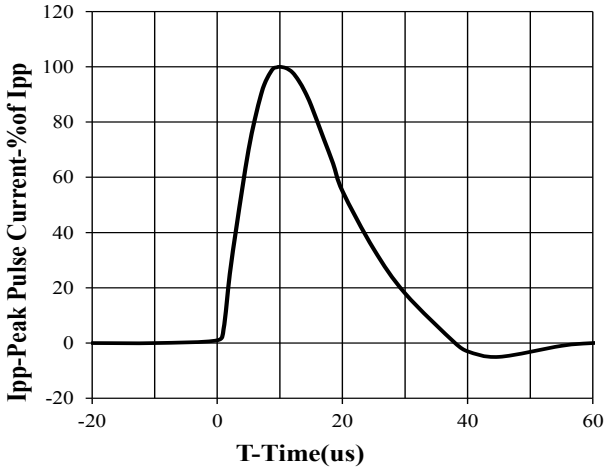
Peak Pulse Power vs. Pulse Time



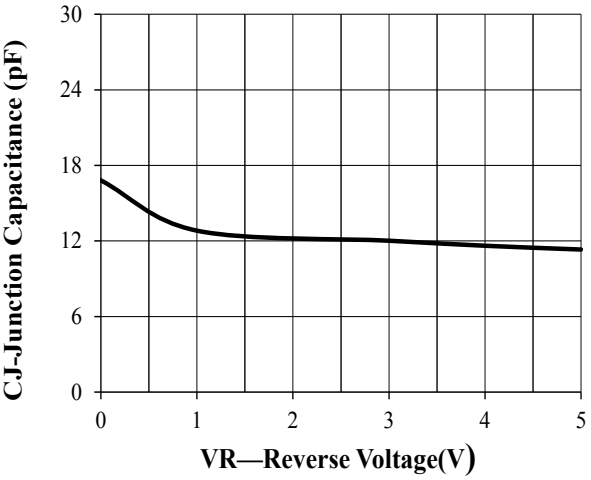
IEC61000−4−2 Pulse Waveform



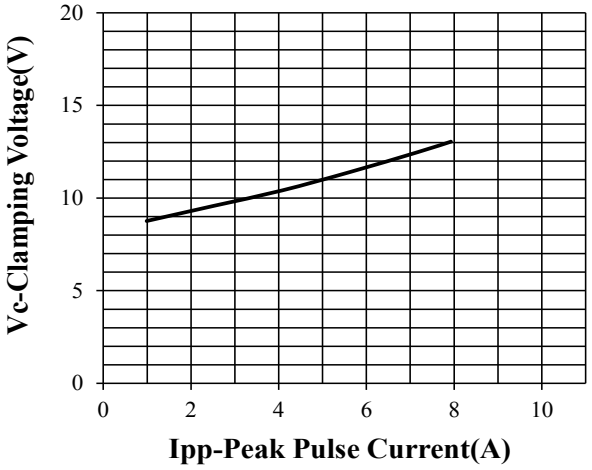
Power Derating Curve



8 X 20us Pulse Waveform

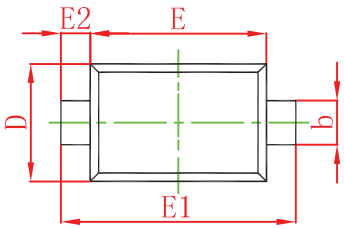


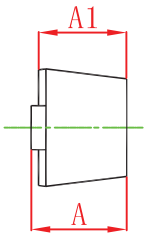
Junction Capacitance vs. Reverse Voltage

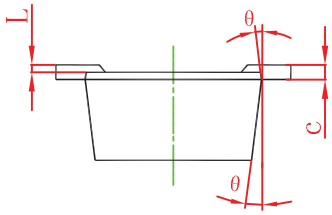


Clamping Voltage vs. Peak Pulse Current

SOD-523 package Outline Dimensions

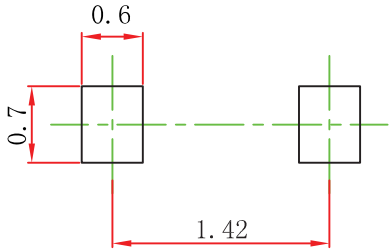






Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.510	0.770	0.020	0.031
A1	0.500	0.700	0.020	0.028
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	0.750	0.850	0.030	0.033
E	1.100	1.300	0.043	0.051
E1	1.500	1.700	0.059	0.067
E2	0.200 REF		0.008 REF	
L	0.010	0.070	0.001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

SOD-523 Suggested pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.