

Features

- ◇ 250W (8/20 μ s) Peak Pulse Power
- ◇ Low Capacitance ESD Protection ◇
- SOD-323 Package
- ◇ RoHS Compliant
- ◇ Matte Tin Lead finish (Pb-Free)
- ◇ Protect One High Speed Data Line ◇

Meet IEC61000-4-2 Level 4:

Contact Discharge > 20 kV

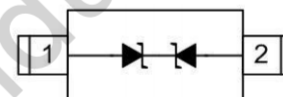
Air Discharge > 20 kV



SOD-323

Circuit Diagram

PIN Diagram



Applications

- ◇ Communication System
- ◇ Portable Instrumentation
- ◇ Audio and Video Equipment
- ◇ Computers and Peripherals
- ◇ USB 1.1, USB 1.0 Ports

Ordering information

Device	Package	Reel Size	Qty / Reel
PESD1LIN	SOD-323	7 inch	3000

Maximum Ratings (Ta = 25°C)

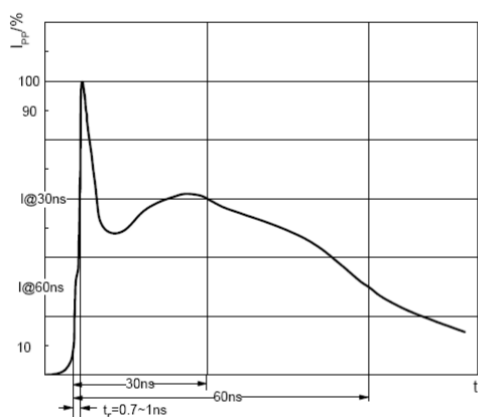
Symbol	Parameter	Value	Unit
PPK	Peak Pulse Power	250	W
IPP	Peak Pulse Current	5	A
VESD (Contact)	Contact ESD Voltage per IEC61000-4-2	20	kV
VESD (Air)	Air ESD Voltage per IEC61000-4-2	20	kV
TJ	Junction Temperature	-55 to +150	°C
TSTG	Storage Temperature	-55 to +150	°C

ESD standards compliance
IEC61000-4-2 Standard

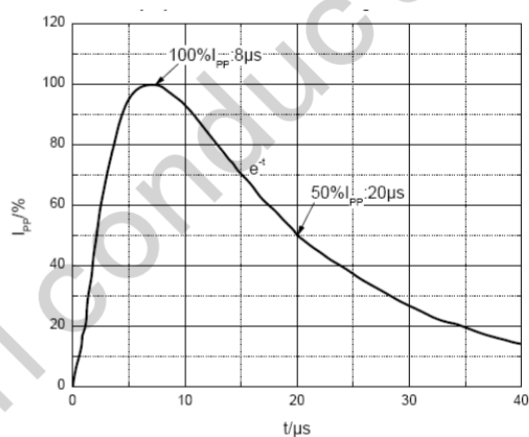
Contact Discharge		Air Discharge	
Level	Test Voltage kV	Level	Test Voltage kV
1	2	1	2
2	4	2	4
3	6	3	8
4	8	4	15

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

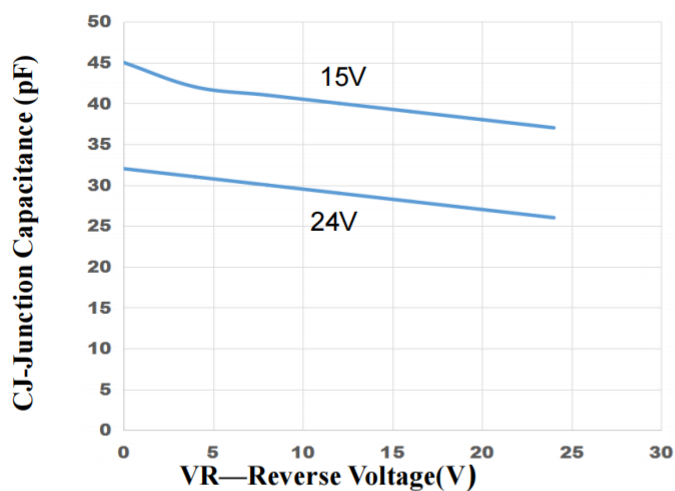


8/20μs pulse waveform according to IEC 61000-4-5

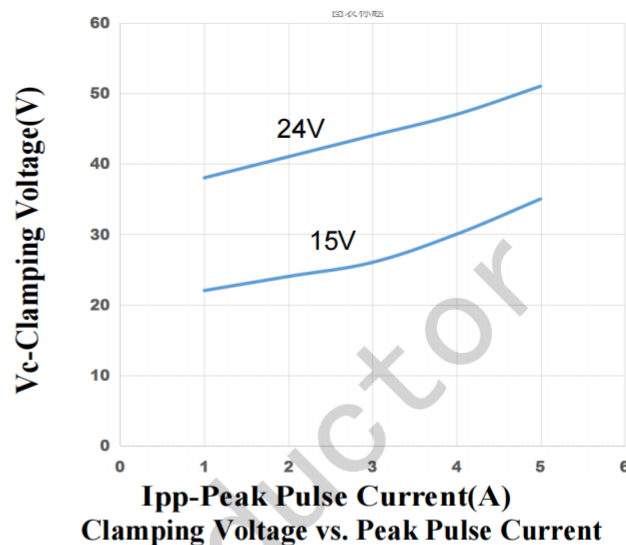
Electrical Characteristics (Ta = 25℃)

Symbol	Parameter	Test Condition	Pin 1 to Pin 2 (15V TVS)			Pin 2 to Pin 1 (24V TVS)			Units
			Min	Typ	Max	Min	Typ	Max	
V_{RWM}	Reverse Working Voltage				15		24		V
V_{BR}	Reverse Breakdown Voltage	$I_T = 1mA$	16		19	26.5		31	V
I_R	Reverse Leakage Current	$V_R = V_{RWM}$			0.2			0.2	μA
V_{C1}	Clamping Voltage 1	$I_{PP} = 1A$, $t_p = 8/20\mu s$			22			38	V
V_{C2}	Clamping Voltage 2	$I_{PP} = 5A$, $t_p = 8/20\mu s$			35			51	V
C_{J1}	Junction Capacitance 1	$V_R = 0V$, $f = 1MHz$			45			32	pF
C_{J2}	Junction Capacitance 2	$V_R = V_{RWM}$, $f = 1MHz$		23			20		pF

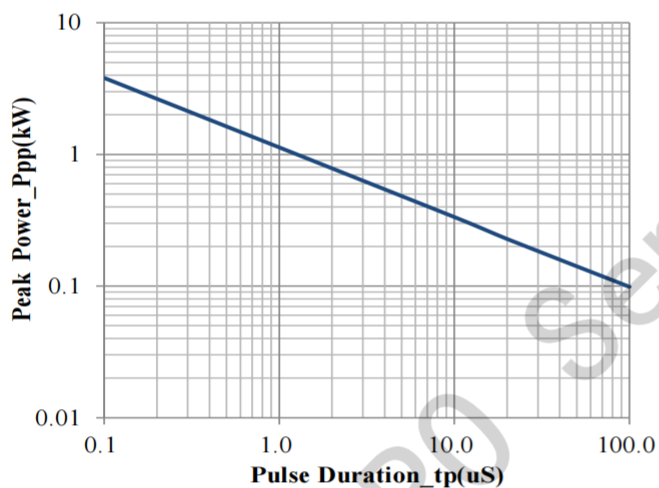
Typical Performance Characteristics (T_A = 25°C unless otherwise Specified)



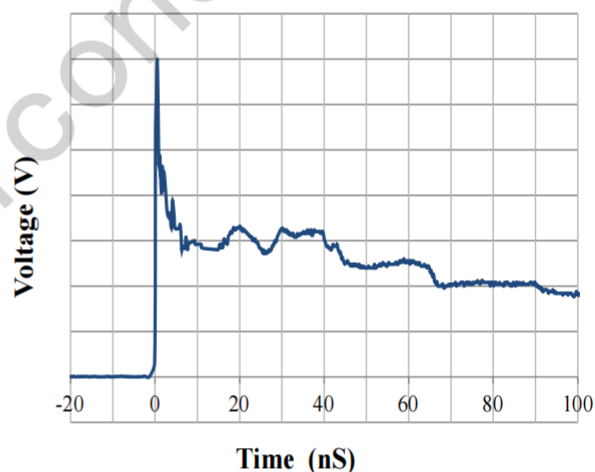
Junction Capacitance vs. Reverse Voltage



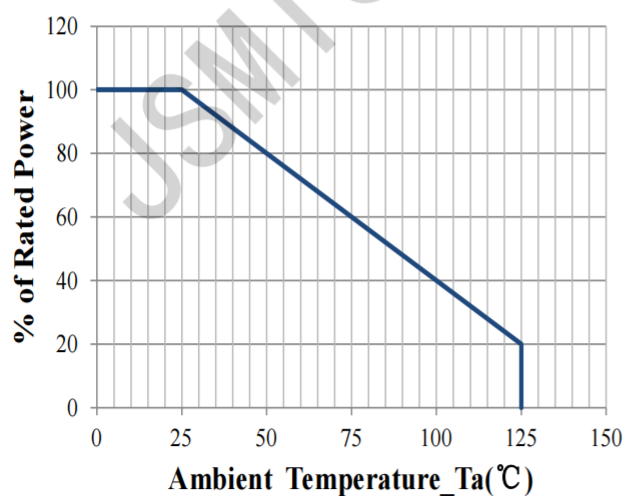
Clamping Voltage vs. Peak Pulse Current



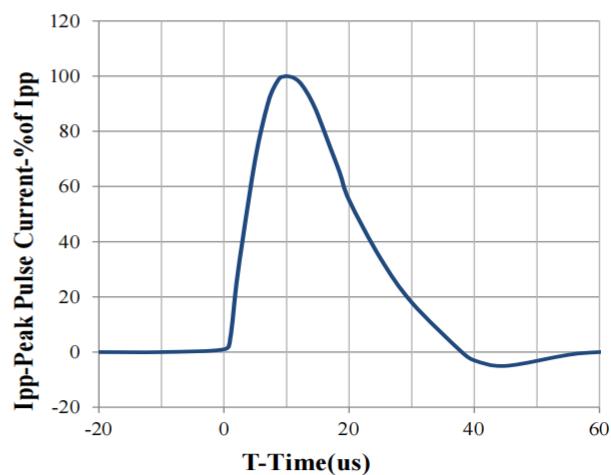
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform



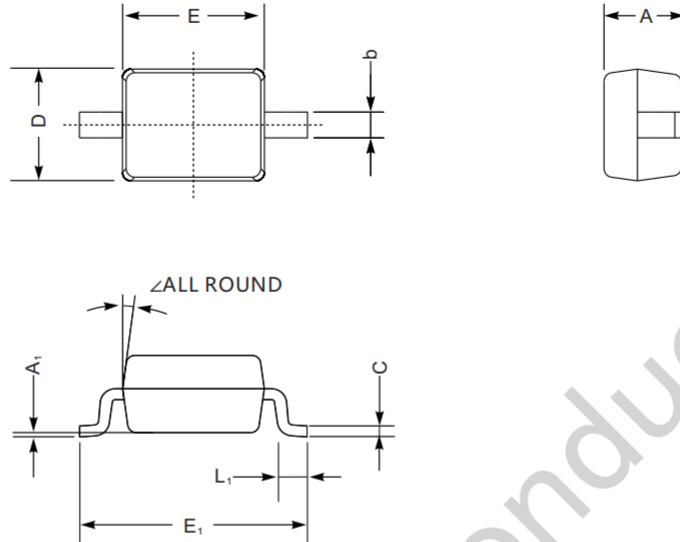
Power Derating Curve



8 X 20us Pulse Waveform

Package Information

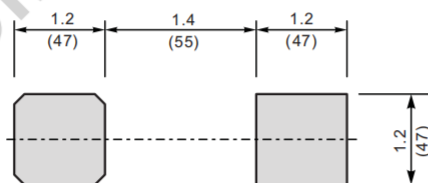
SOD-323



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