

SOD-323 Plastic-Encapsulate ESD Protection Diodes

Features

- 6&8 inch advanced semiconductor technology
- Response time is typically < 1 ns
- Ultra low leakage: nA level
- Low clamping voltage
- Molding compound flammability rating: UL 94V-0
- Lead finish: lead free
- SOD-323 package

Applications

- ESD and surge protection of power lines
- ESD and surge protection of signal lines (main application)
- Other abnormal interference protection

Certificates

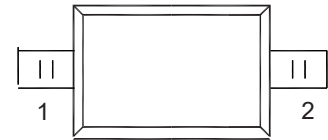
- RoHS compliant
- REACH & SVHC compliant
- Halogen compliant

Electronics parameter

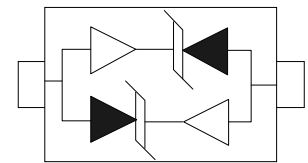
Symbol	Parameter
V_{RWM}	Peak reverse working voltage
I_R	Reverse leakage current @ V_{RWM}
V_{BR}	Breakdown voltage @ I_T
I_T	Test current
I_{PP}	Maximum reverse peak pulse current
V_C	Clamping voltage @ I_{PP}

SOD-323

RoHS
COMPLIANT



Equivalent circuit



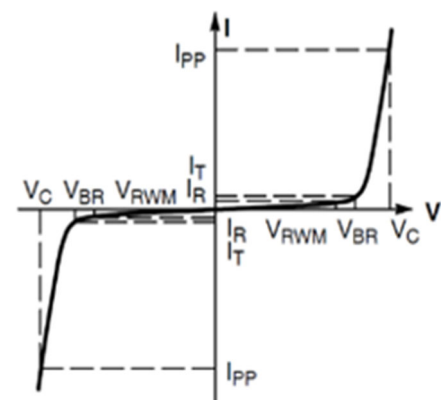
Marking:EC



Packaging information

- Reel size: 7 inch
- Quantity of per reel: 3000 pcs
- Quantity of per box: 10 reels
- Quantity of per carton: 6 boxes

V-I curve



Absolute maximum ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
IEC 61000-4-2 (ESD)(Air)	V_{ESD}	± 30	KV
IEC 61000-4-2 (ESD)(Contact)	V_{ESD}	± 30	KV
IEC 61000-4-4 (EFT)(5/50ns)	I_{PP}	40	A
Peak pulse current (8/20us) ^①	I_{PP}	11	A
Peak pulse power (8/20us)	P_{PP}	350	W
Operating temperature range	T_J	-40 to +125	$^{\circ}\text{C}$
Storage temperature range	T_{stg}	-55 to +150	$^{\circ}\text{C}$

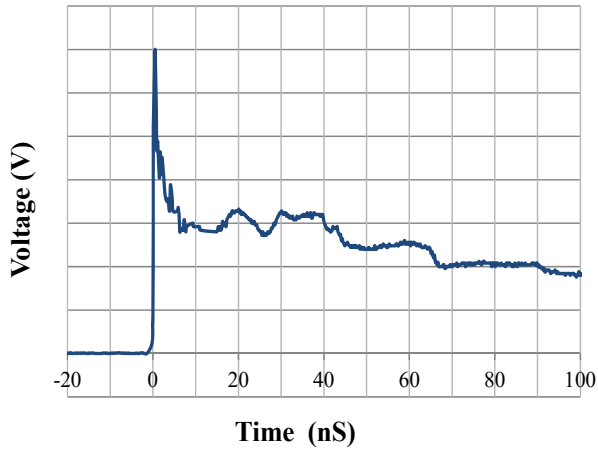
①, 8/20us: IEC61000-4-5 surge compliant, same as the full datasheet

Electrical characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

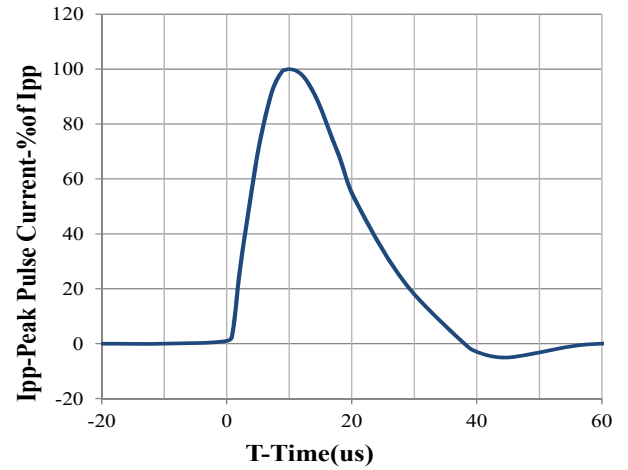
Parameter	Symbol	Test condition	Min	Typ	Max	Unit
Reverse working voltage	V_{RWM}				15	V
Breakdown voltage	V_{BR}	$I_T = 1\text{mA}$	16.5		21	V
Reverse leakage current	I_R	$V_{\text{RWM}} = 15\text{V}$		<10	100	nA
Clamping voltage	V_C	$I_{\text{PP}} = 1\text{A}$ (8 / 20 μs)			22	V
Clamping voltage	V_C	$I_{\text{PP}} = 11\text{A}$ (8 / 20 μs)		28	32	V
Junction capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$		0.6	1.0	pF

Typical performance characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

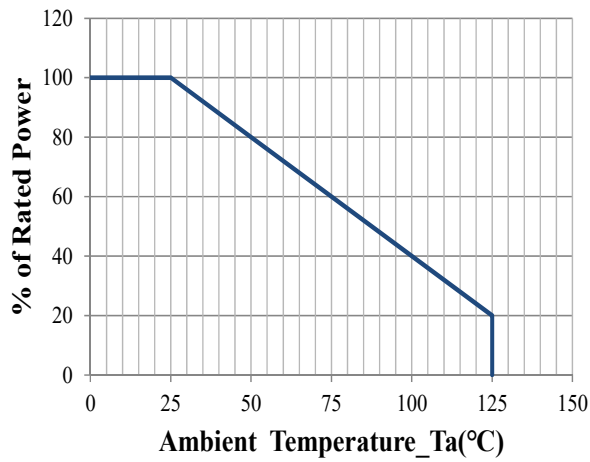
IEC61000-4-2 ESD waveform



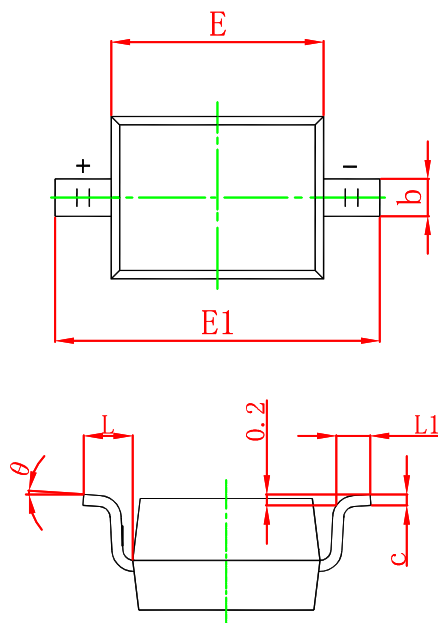
IEC61000-4-5 8/20us waveform



P_{PP} - T_a curve

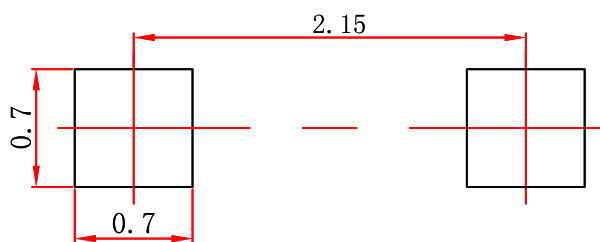


SOD-323 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A		1.100		0.043
A1	0.000	0.100	0.000	0.004
A2	0.800	1.000	0.031	0.039
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	1.200	1.400	0.047	0.055
E	1.600	1.800	0.063	0.071
E1	2.500	2.750	0.098	0.108
L	0.475 REF		0.019 REF	
L1	0.250	0.400	0.010	0.016
θ	0°	8°	0°	8°

SOD-323 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.