

Features

- ◇ 350W (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 > 30 kV

Air Discharge > 30 kV

Mechanical Data

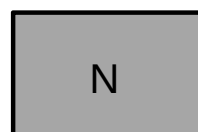
Package: SOD-323

Lead Finish: Lead Free

UL Flammability Classification Rating 94V-0

Applications

Smart Phones
Laptop Computers
Portable Electronics



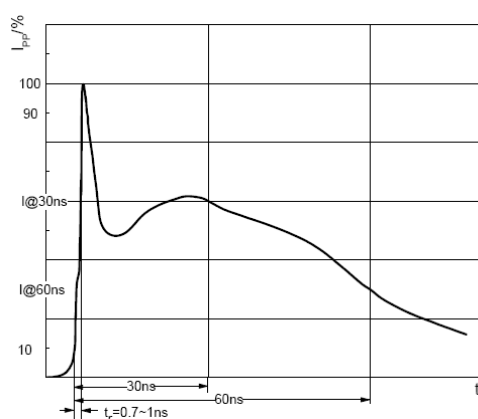
SOD-323

Absolute Maximum Rating

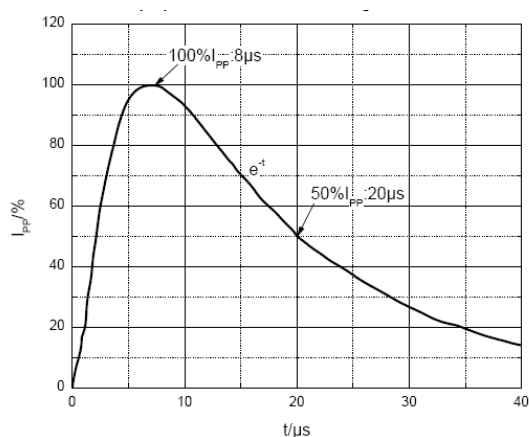
Symbol	Parameter	Value	Unit
TJ	Junction Temperature	-55 to +150	°C
TSTG	Storage Temperature	-55 to +150	°C
Ipp Max	Maximum Peak Pulse Current	10	A
PPK	Peak Pulse Power	350	W

Electrical Characteristics

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
VRWM	Reverse Working Peak Voltage				18	V
VBR	Reverse Breakdown Voltage	$I_T = 1\text{mA}$	20	21	23	V
IR	Reverse Leakage Current	$VRWM = 18\text{V}$			0.5	μA
VC	Clamping Voltage	$I_{PP} = 1\text{A}$ (8/20 μs)			27	V
VC	Clamping Voltage	$I_{PP} = 1.0\text{A}$ (8/20 μs)			35	V
Ipp	Peak Pulse Current	$t_p = 8/20\mu\text{s}$			10	A
CJ	Capacitance	$VR = 0\text{V}$, $f = 1\text{MHz}$		42	82	pF



ESD pulse waveform according to IEC61000-4-2

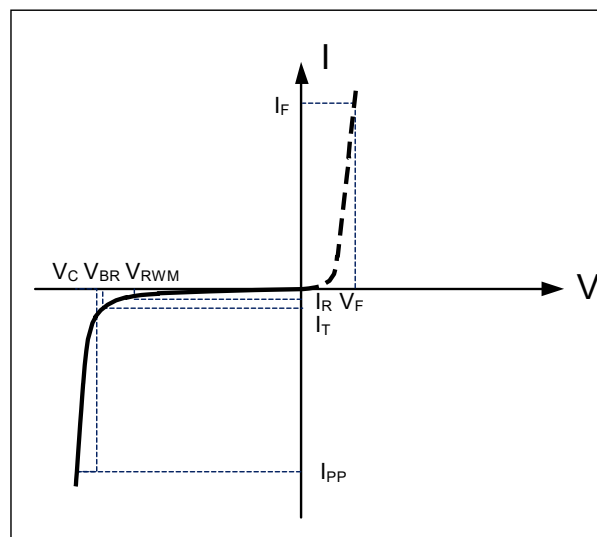


8/20 μs pulse waveform according to IEC 61000-4-5

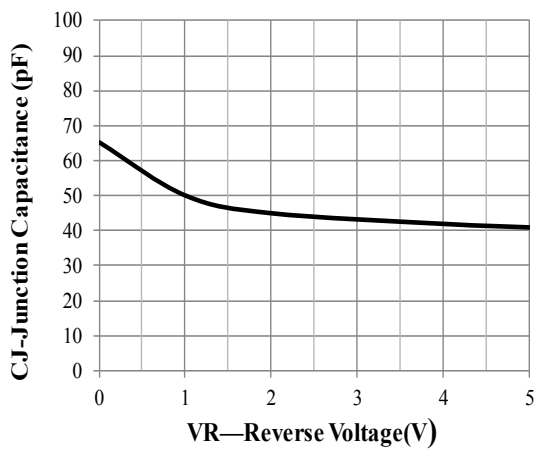
Electrical Parameters (TA = 25°C unless otherwise noted)

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

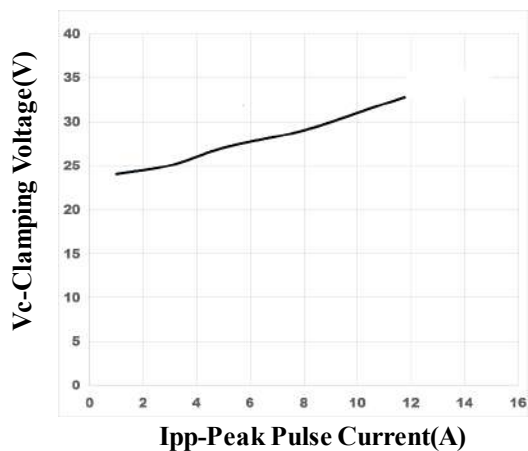
Note: 8/20 μs pulse waveform.



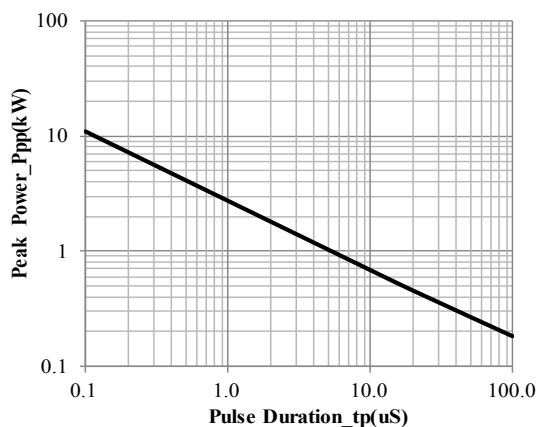
RATING AND CHARACTERISTIC CURVES



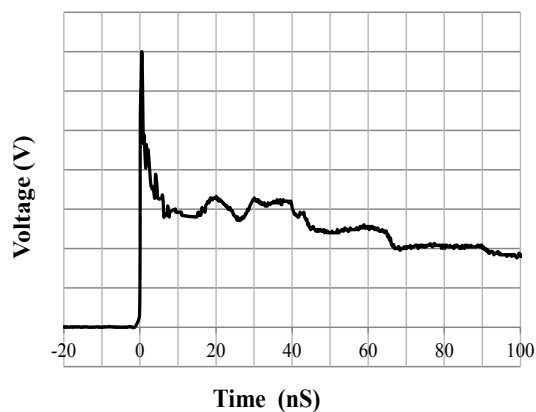
Junction Capacitance vs. Reverse Voltage



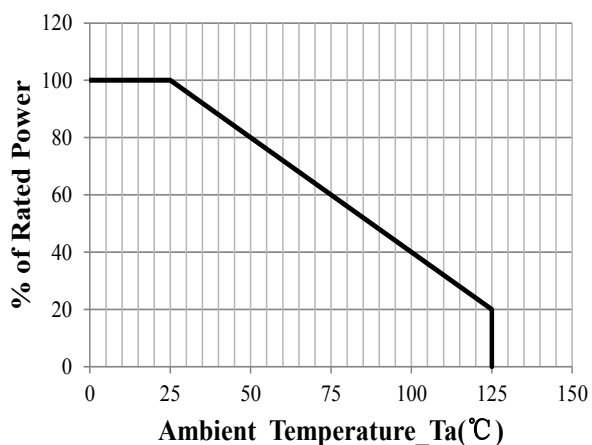
Clamping Voltage vs. Peak Pulse Current



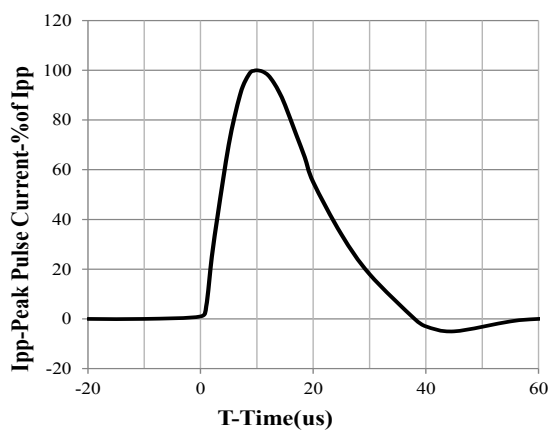
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform



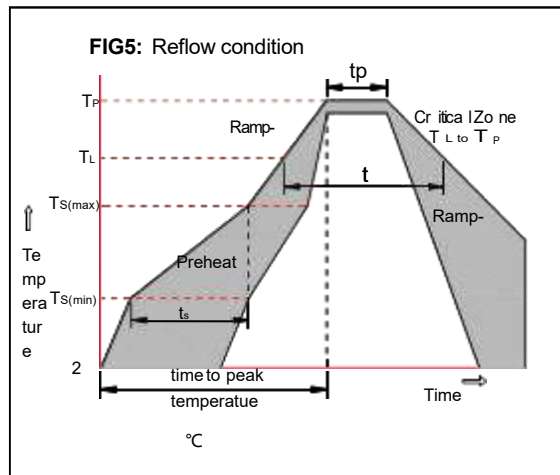
Power Derating Curve



8 X 20us Pulse Waveform

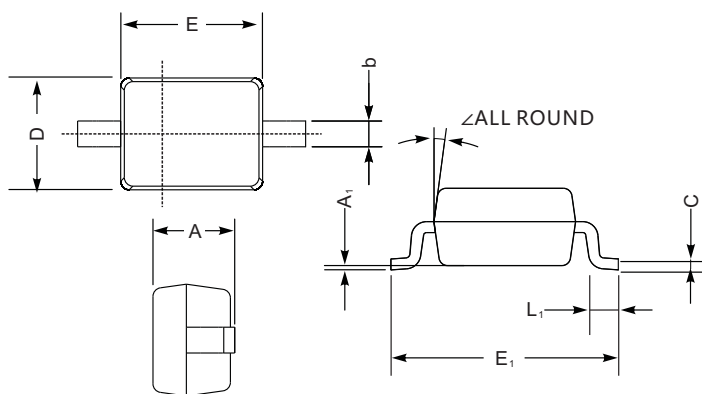
Soldering parameters

Reflow Condition		Pb-Free assembly (see as below)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150°C
	-Temperature Max($T_{s(max)}$)	+200°C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3°C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature(T_L)(Liquid us)	+217°C
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_P)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t_P)		30 secs. Max
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260°C



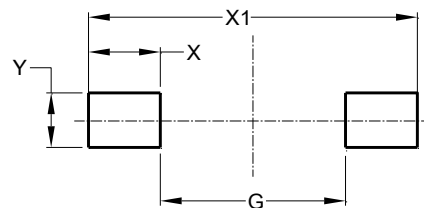
Package Dimensions & Suggested Pad Layout

SOD323



SOD-323 mechanical data

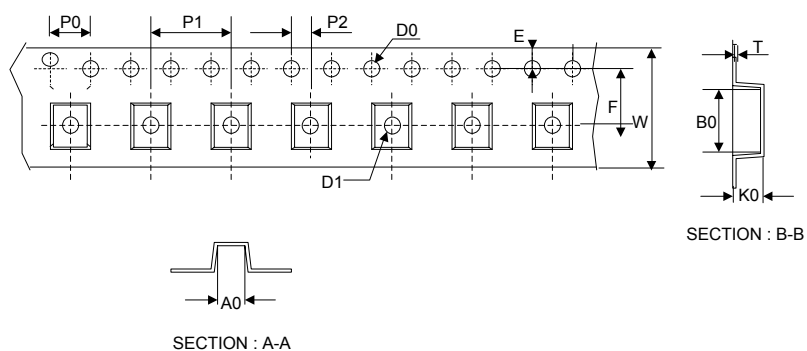
UNIT		A	C	D	E	E ₁	b	L ₁	A ₁	∠
mm	max	1.1	0.15	1.4	1.8	2.75	0.4	0.45	0.2	9°
	min	0.8	0.08	1.2	1.4	2.55	0.25	0.2	—	
mil	max	43	5.9	55	70	108	16	16	8	
	min	32	3.1	47	63	100	9.8	7.9	—	



Dimensions	Value (in mm)
G	1.40
X	1.20
X1	3.80
Y	1.00

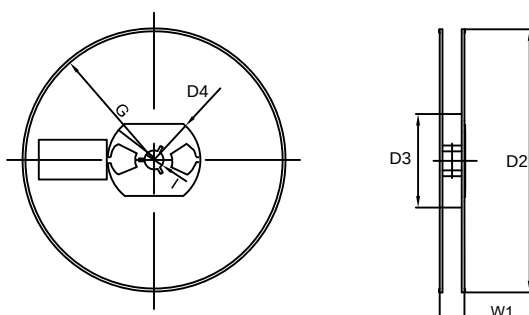
Tape & reel specification

Tape



Symbol	Dimension (mm)
P0	4.00±0.20
P1	4.00±0.20
P2	2.00±0.20
D0	1.55±0.20
D1	1.00±0.20
E	1.55±0.25
F	3.60±0.20
W	8.00±0.20
A0	2.00±0.20
B0	3.25±0.20
K0	1.35±0.20
T	0.23±0.10
D2	177.0±5.0
D3	55Min.
D4	R24.6±2.0
G	R82.0±2.0
I	13.0±2.0
W1	10.20±3.0

7" Reel



Quantity: 3000PCS