Features

2700W peak pulse power (8/20μs)

Low leakage: nA level

Low operating voltage: 12V

Ultra low clamping voltage

One power line protects

Complies with following standards:

– IEC 61000-4-2 (ESD) immunity test

Air discharge: ±30kV

Contact discharge: ±30kV

– IEC61000-4-5 (Lightning)100A (8/20μs)

RoHS Compliant

Package: SOD-323

Applications

Mobile Phones and Accessories

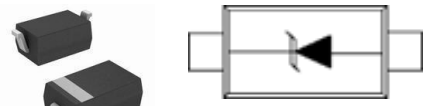
Battery Protection

USB VBus

Power Line Protection

Hand Held Portable Applications





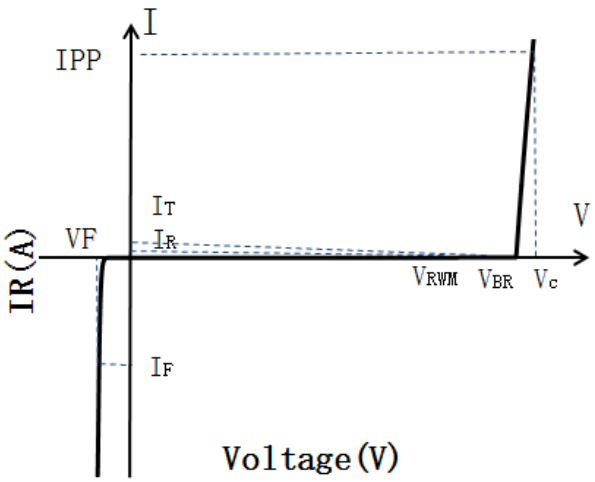
SOD-323

Absolute Maximum Rating

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	2700	W
Peak Pulse Current (8/20μs)	IPP	100	A
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	VESD	±30 ±30	kV
Operating Temperature Range	TJ	−55 to +125	°C
Storage Temperature Range	Tstg	−55 to +150	°C

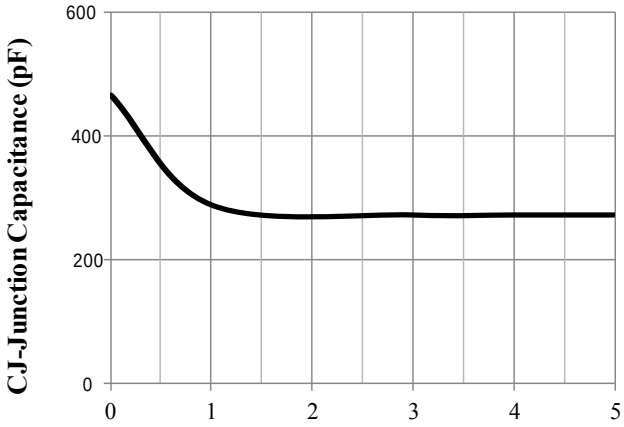
Electrical Parameters (TA = 25°C unless otherwise noted)

Symbol	Parameter
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
Vc	Clamping Voltage @Ic

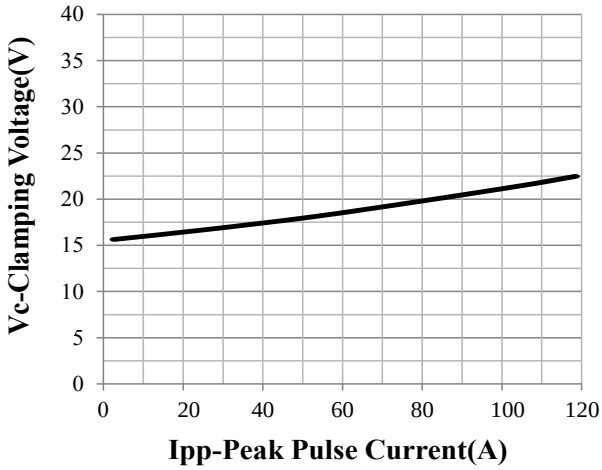


Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				12	V
Breakdown Voltage	V_{BR}	I_T = 1mA	13	14	17	V
Reverse Leakage Current	I_R	V_{RWM} = 12V			1	μA
Clamping Voltage	V_C	I_{PP} = 10A (8 x 20μs pulse)		16		V
Clamping Voltage	V_C	I_{PP} = 100A (8 x 20μs pulse)		22.5	27	V
Junction Capacitance	C_J	VR = 0V, f = 1MHz		450	510	pF

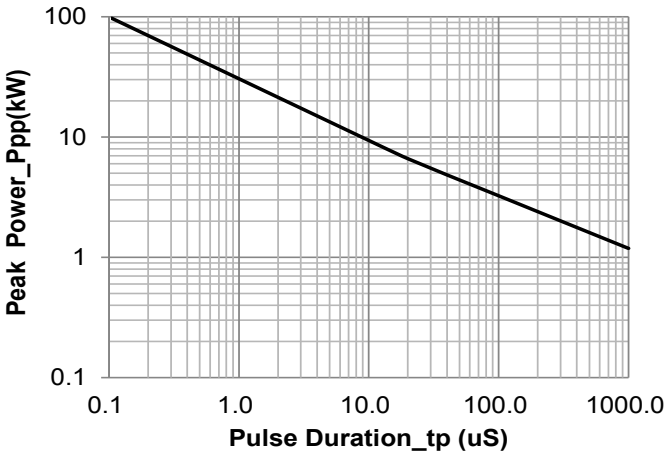
RATING AND CHARACTERISTIC CURVES



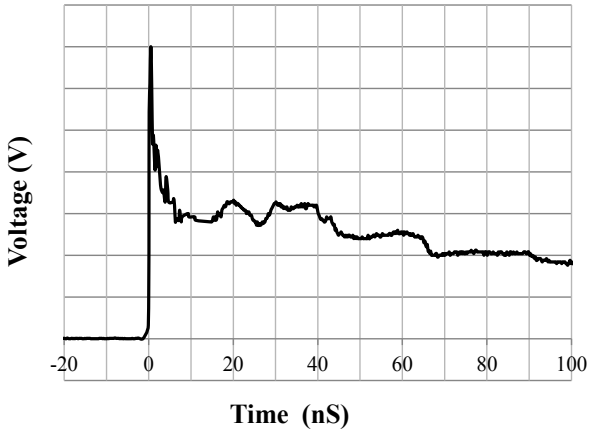
Junction Capacitance vs. Reverse Voltage



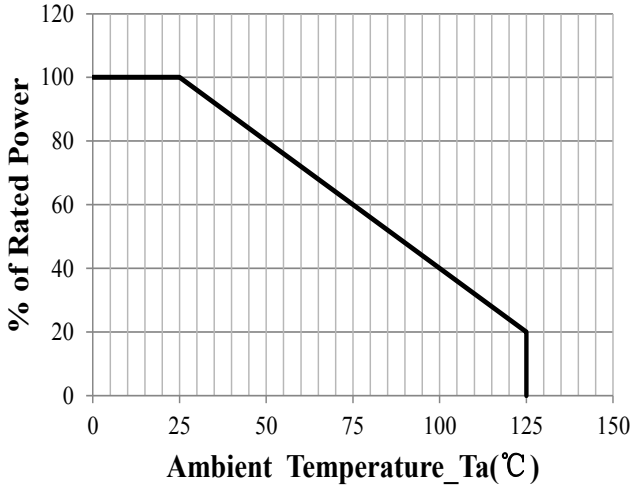
Clamping Voltage vs. Peak Pulse Current



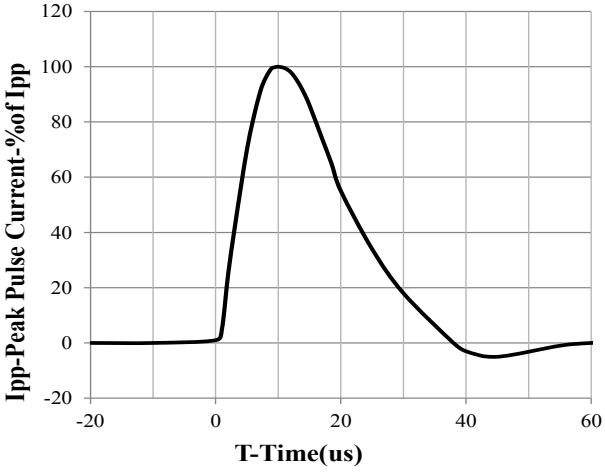
Peak Pulse Power vs. Pulse Time



IEC61000−4−2 Pulse Waveform



Power Derating Curve

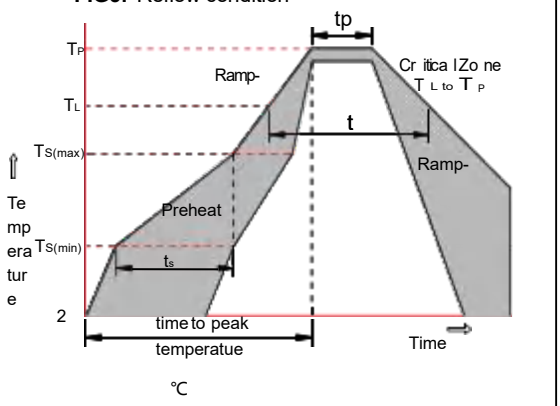


8 X 20us Pulse Waveform

Soldering parameters

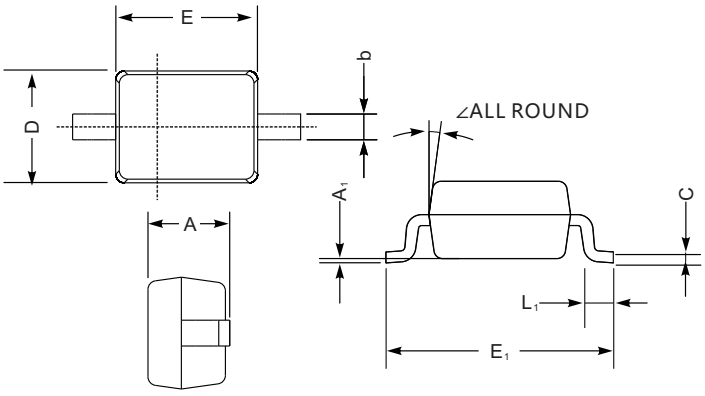
Reflow Condition		Pb-Free assembly (see as bellow)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150℃
	-Temperature Max($T_{s(max)}$)	+200℃
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3℃/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3℃/sec. Max
Reflow	-Temperature(T_L)(Liquid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

FIG5: Reflow condition



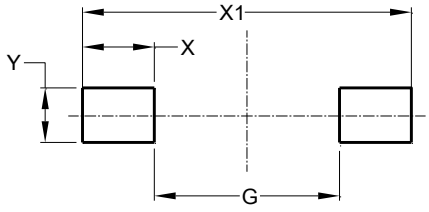
Package Dimensions & Suggested Pad Layout

SOD323



SOD-323 mechanical data

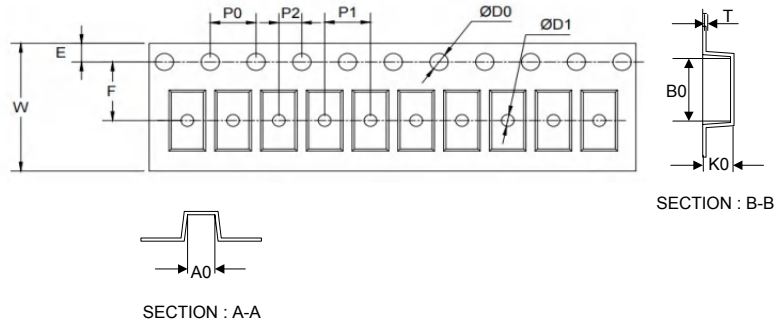
UNIT		A	C	D	E	E_1	b	L_1	A_1	∠
mm	max	1.1	0.15	1.4	1.8	2.75	0.4	0.45	0.2	9°
	min	0.8	0.08	1.2	1.4	2.55	0.25	0.2	—	
mil	max	43	5.9	55	70	108	16	16	8	
	min	32	3.1	47	63	100	9.8	7.9	—	



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

Tape & rell specification

Tape

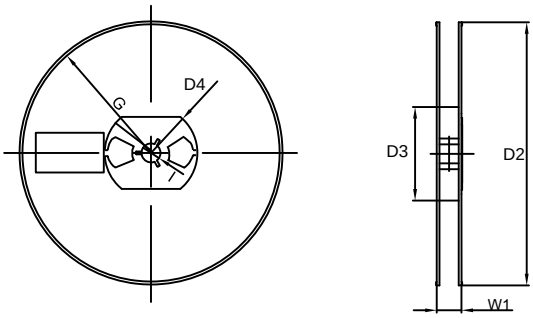


SECTION : A-A

SECTION : B-B

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

7” Reel



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

Quantity: 3000PCS