

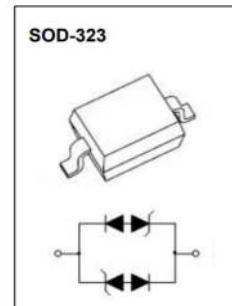
## Features

Bi-directional ESD protection of one line  
Reverse stand-off voltage: 3.3V  
Low capacitance: 1.5pF  
Low reverse clamping voltage  
Low leakage current  
Fast response time  
IEC 61000-4-2 (ESD) immunity test :  
Air discharge: ±30kV  
Contact discharge: ±30kV

## Applications

Computers and peripherals  
High speed data lines  
Audio and video equipment  
Cellular handsets and accessories  
Subscriber identity module(SIM) card protection  
Portable electronics  
FireWire  
Other electronics equipments communi- cation systems

C03



## Absolute Maximum Rating

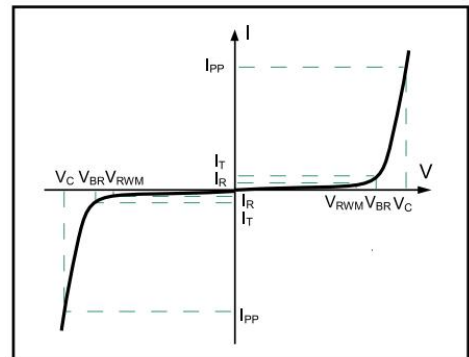
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	350	W
Peak Pulse Current (8/20μs)	IPP	20	A
ESD per IEC 61000-4-2 (Air)	VESD	±30	kV
ESD per IEC 61000-4-2 (Contact)		±30	
Operating Temperature Range	TJ	-55to +125	°C
Storage Temperature Range	Tstg	-55 to +150	°C

## Electrical Characteristics

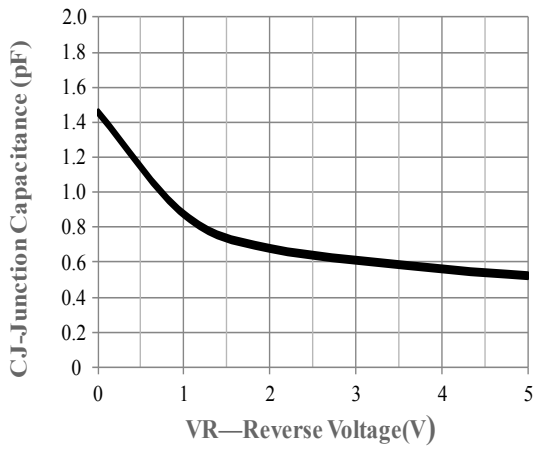
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	$V_{RWM}$				3.3	V
Breakdown Voltage	$V_{BR}$	$I_T = 1\text{mA}$	4		6	V
Reverse Leakage Current	$I_R$	$V_{RWM} = \pm 3.3\text{V}$			0.5	$\mu\text{A}$
Clamping Voltage	$V_C$	$I_{PP} = 20\text{A}$ (8 x 20 $\mu\text{s}$ pulse)			17	V
Junction Capacitance	$C_j$	$V_R = 0\text{V}$ , $f = 1\text{MHz}$			1.5	pF

## Electrical Parameter

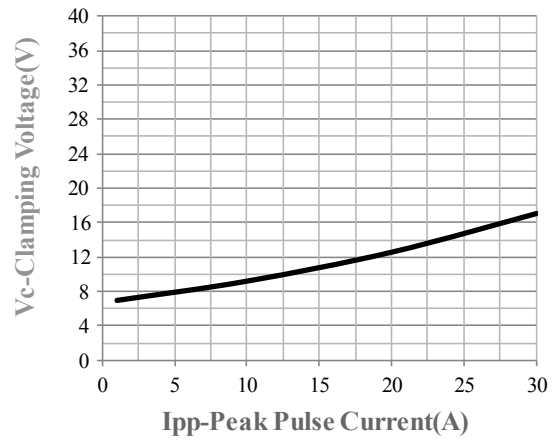
Symbol	Parameter
$I_T$	Test Current
$I_{PP}$	Maximum Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_C$
$V_{BR}$	Breakdown Voltage @ $I_T$
$I_R$	Reverse Leakage Current @ $V_{RWM}$
$V_{RWM}$	Reverse Standoff Voltage



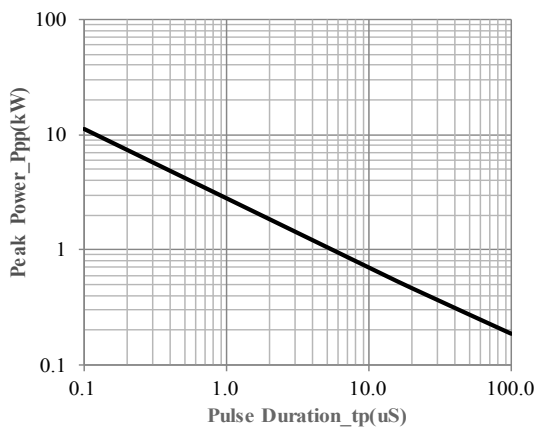
**RATING AND CHARACTERISTIC CURVES**



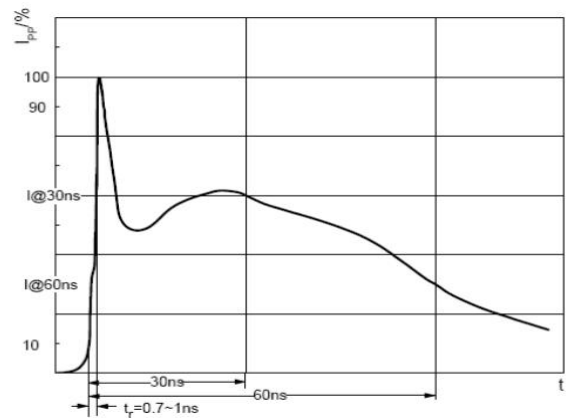
Junction Capacitance vs. Reverse Voltage



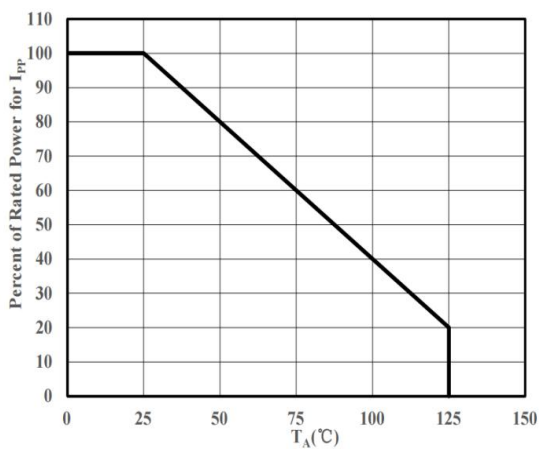
Clamping Voltage vs. Peak Pulse Current



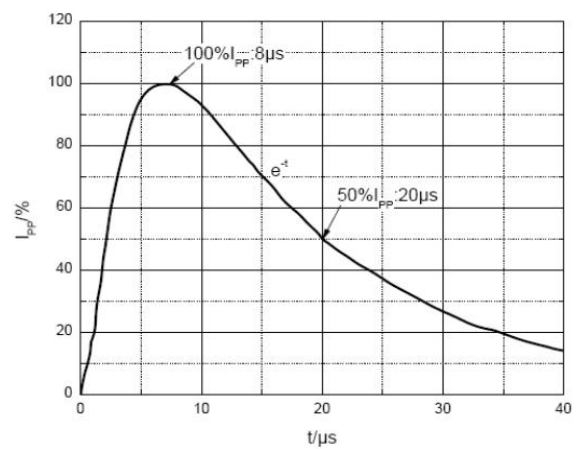
Peak Pulse Power vs. Pulse Time



ESD pulse waveform according to IEC61000-4-2



Power Derating Curve



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

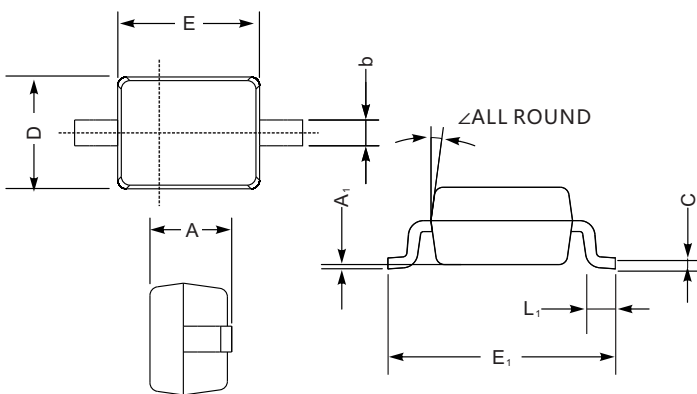
**Soldering parameters**

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



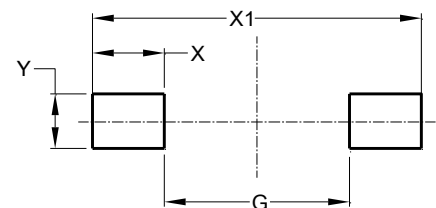
**Package Dimensions & Suggested Pad Layout**

**SOD323**



SOD-323 mechanical data

UNIT		A	C	D	E	E <sub>1</sub>	b	L <sub>1</sub>	A <sub>1</sub>	∠
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)
<b>G</b>	1.40
<b>X</b>	1.20
<b>X1</b>	3.80
<b>Y</b>	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		
		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			