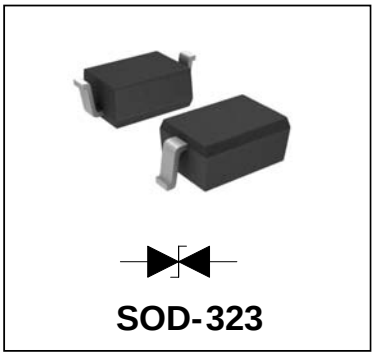
Features

- Bidirectional ESD protection of one I/O line
- Ultra low capacitance: typically 0.8pF
- Low clamping voltage
- Working voltage: 3.3V
- Low leakage current
- IEC 61000-4-2 ±30kV contact ±30kV air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning)20A (8/20μs)



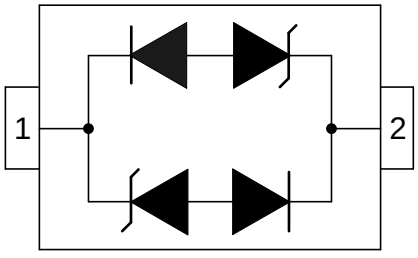
Mechanical Characteristics

- JEDEC SOD-323 package
- Molding compound flammability rating: UL 94V-0
- Marking : Marking Code
- Packaging : Tape and Reel per EIA 481
- RoHS Compliant

Applications

- USB 2.0 and USB 3.0 interface
- 10/100/1000 Ethernet
- Personal digital assistants (PDA)
- Serial ATA protection
- Digital visual interface (DVI)
- Wireless system devices
- Handhelds and notebooks
- Digital cameras
- RF interface

Schematic & PIN Configuration



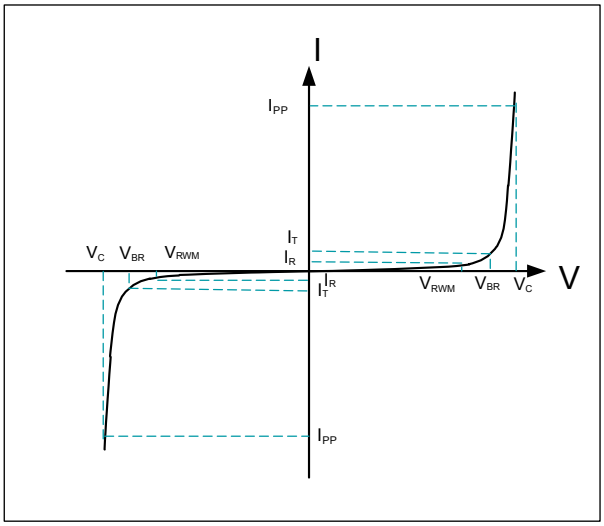
SOD-323 (Top View)

Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power (t_p =8/20μs)	P_{PP}	240	Watts
Peak Pulse Current (t_p =8/20μs)(note1)	I_{pp}	20	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	30 30	kV
Lead Soldering Temperature	T_L	260(10seconds)	℃
Junction Temperature	T_J	-55 to + 125	℃
Storage Temperature	T_{stg}	-55 to + 125	℃

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

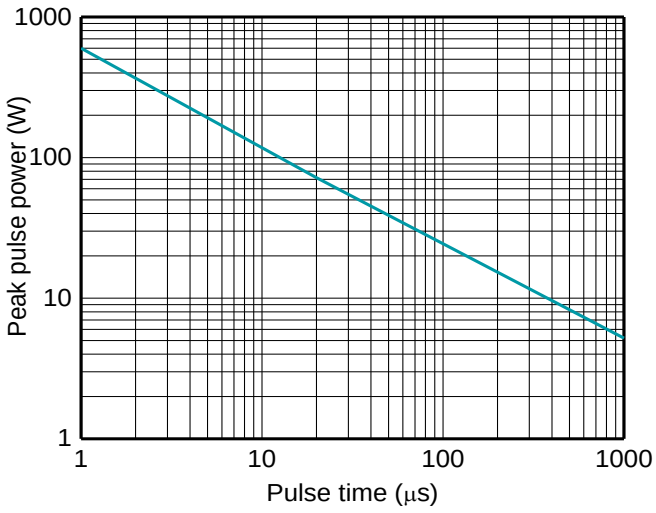


Note:. 8/20μs pulse waveform.

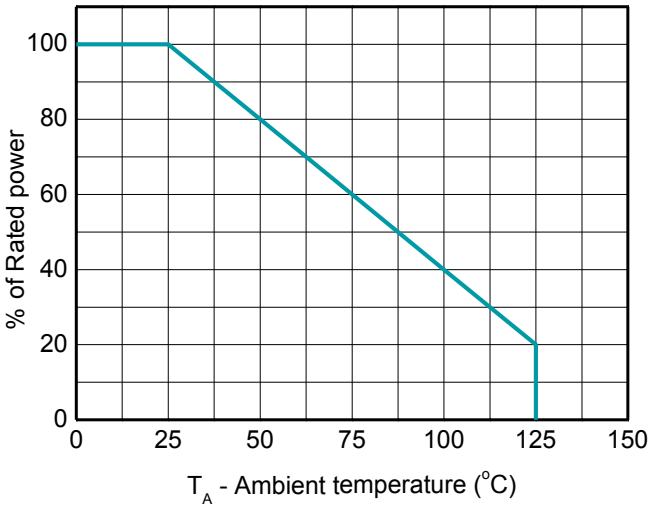
Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{RWM}				3.3	V
Reverse Breakdown Voltage	V_{BR}	I_T=1mA	6			V
Reverse Leakage Current	I_R	V_{RWM}= 3.3V,T=25℃			0.1	μA
Peak Pulse Current	I_{PP}	tp =8/20μs		20		A
Clamping Voltage	V_C	I_{PP}=20A,t_p=8/20μs		12		V
Junction Capacitance	C_j	V_R = 0V, f = 1MHz		0.8		pF

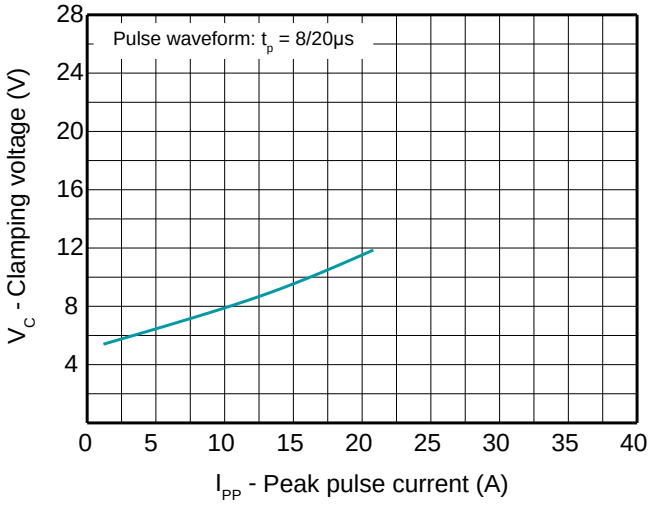
Typical Characteristics



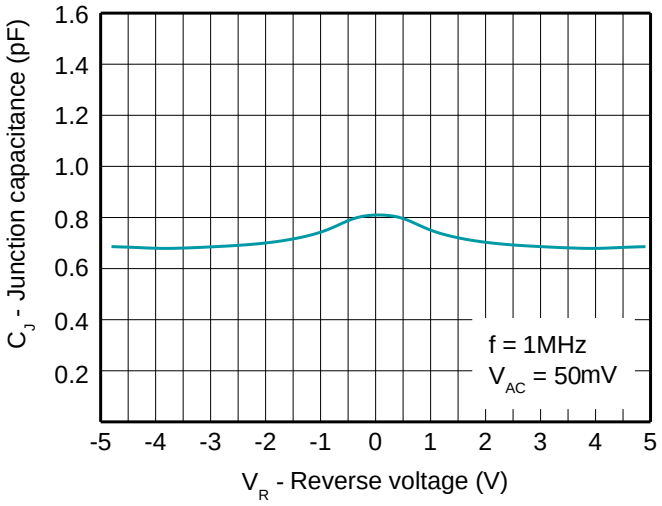
Non-repetitive peak pulse power vs. Pulse time



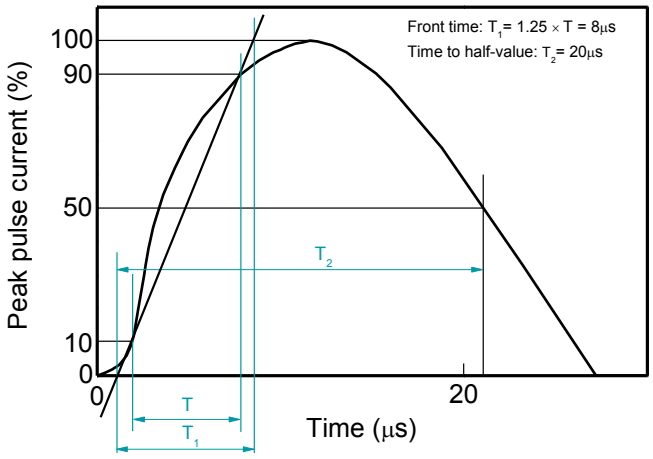
Power derating vs. Ambient temperature



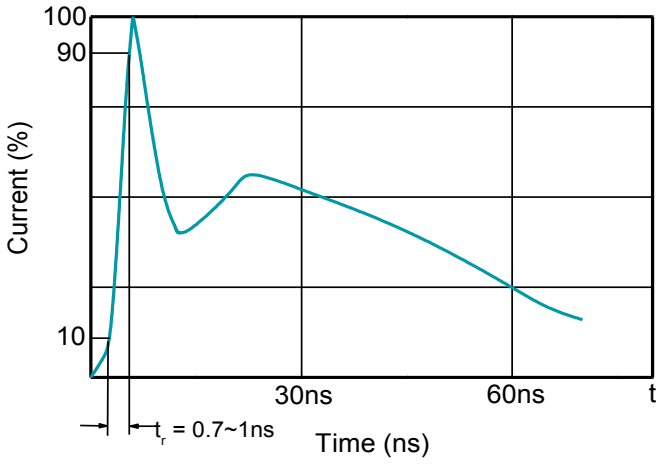
Clamping voltage vs. Peak pulse current



Capacitance vs. Reverse voltage



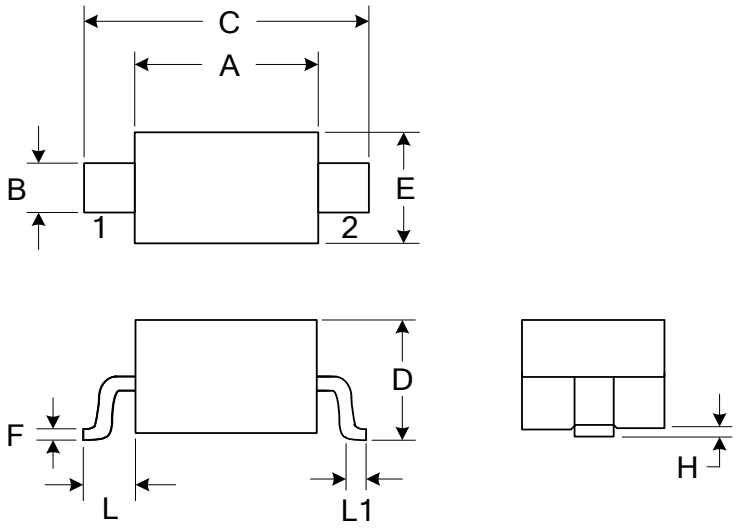
8/20μs waveform per IEC61000-4-5



Contact discharge current waveform per IEC61000-4-2

Outline Drawing – SOD-323

PACKAGE OUTLINE



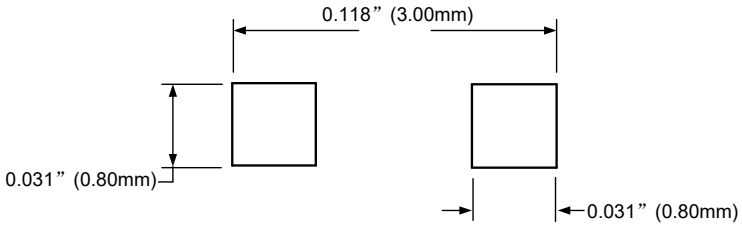


SOD-323

DIMENSIONS

SYMBOL	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	1.60	1.80	0.063	0.071
B	0.25	0.35	0.010	0.014
C	2.50	2.70	0.098	0.106
D	0.00	1.00	0.000	0.039
E	1.20	1.40	0.047	0.055
F	0.08	0.15	0.003	0.006
L	0.475 REF		0.019REF	
L1	0.25	0.40	0.010	0.016
H	0.00	0.10	0.000	0.004

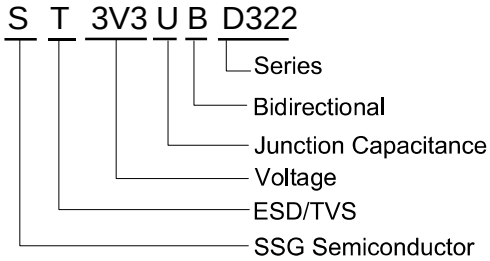
MOUNTING PAD



Notes

1. Controlling Dimensions in Millimeters.
2. Dimensions are exclusive of mold flash and metal burrs.

Part Numbering System



Device	Package	Shipping	MarKing	Parameter
ST3V3UBD322	SOD-323	3000/Tape&Reel	**3B ***	3B = Product Code LC = Device Code