

Transient Voltage Suppressor

FEATURES

- ◆450Watts peak pulse power ($t_p = 8/20\mu s$)
- ◆Replacement for MLV (0805)
- ◆Protects one I/O or power line
- ◆Low Clamping Voltage
- ◆Working Voltage: 7V
- ◆Low Leakage Current

IEC COMPATIBILITY (EN61000-4)

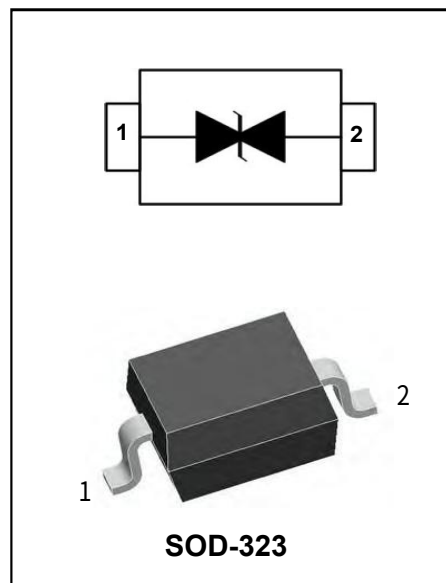
- ◆IEC 61000-4-2 (ESD) $\pm 30kV$ (air), $\pm 30kV$ (contact)
- ◆IEC 61000-4-4 (EFT) 40A (5/50ns)
- ◆IEC 61000-4-5 (Lightning) 22A (8/20 μs)

APPLICATION

- ◆Laptop Computers
- ◆Cellular Phones
- ◆Digital Cameras
- ◆Personal Digital Assistants (PDAs)

Mechanical Data

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



Marking Code

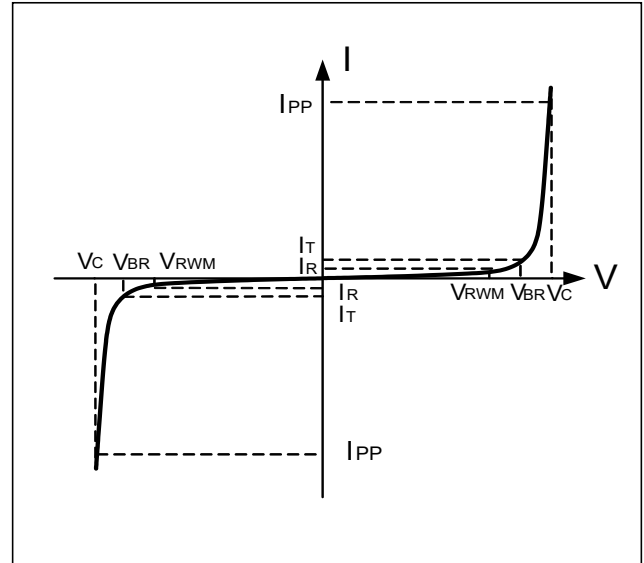
ESD7VFBD322	08B
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Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu s$)	P_{PP}	450	W
Peak Pulse Current ($t_p = 8/20\mu s$)(note1)	I_{pp}	22	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	30 30	kV
Junction Temperature	T_J	-55 to + 125	℃
Storage Temperature	T_{stg}	-55 to + 150	℃

Electrical Parameters ($T_A = 25^\circ\text{C}$)

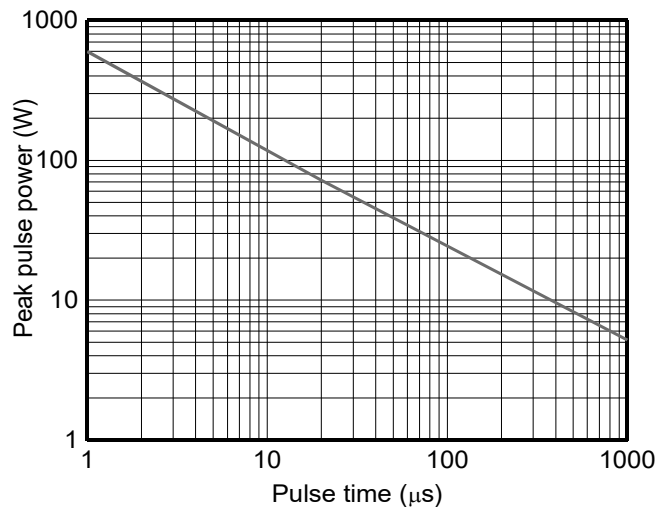
Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_F	Forward Current
V_F	Forward Voltage @ I_F



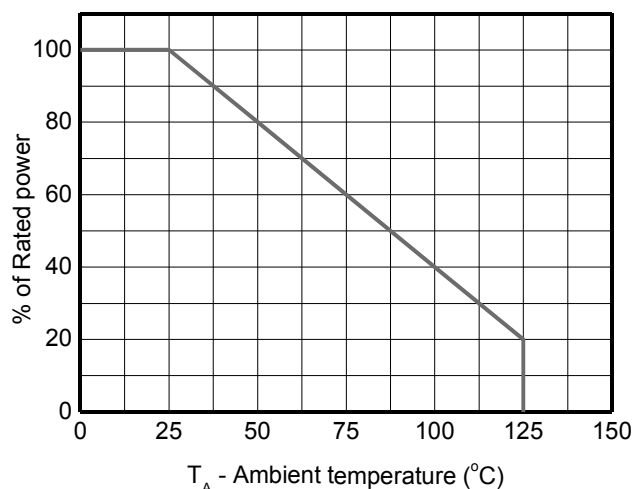
Electrical Characteristics

Parameter	Conditions	Symbol	Min	Typ	Max	Units
Reverse Stand-Off Voltage		V_{RWM}			7.0	V
Reverse Breakdown Voltage	$I_T=1\text{mA}$	V_{BR}	8.0		12	V
Reverse Leakage Current	$V_{RWM}=7\text{V}, T=25^\circ\text{C}$	I_R			1	μA
Clamping Voltage	$I_{PP}=1\text{A}, t_p=8/20\mu\text{s}$	V_C			9.0	V
Clamping Voltage	$I_{PP}=22\text{A}, t_p=8/20\mu\text{s}$	V_C		15	20	V
Junction Capacitance	$V_R = 0\text{V}, f = 1\text{MHz}$	C_j		100	120	pF

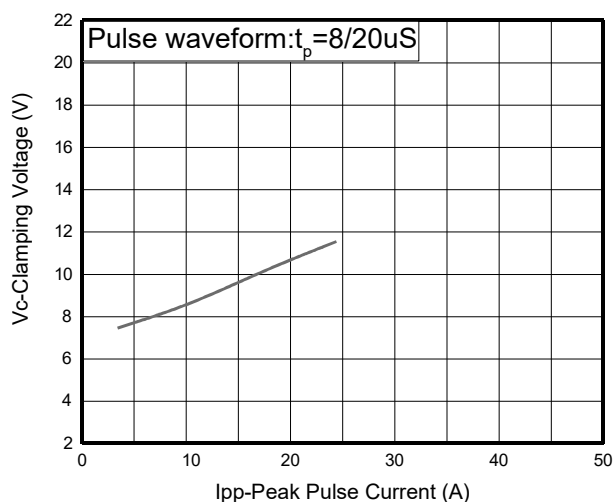
Typical Characteristics



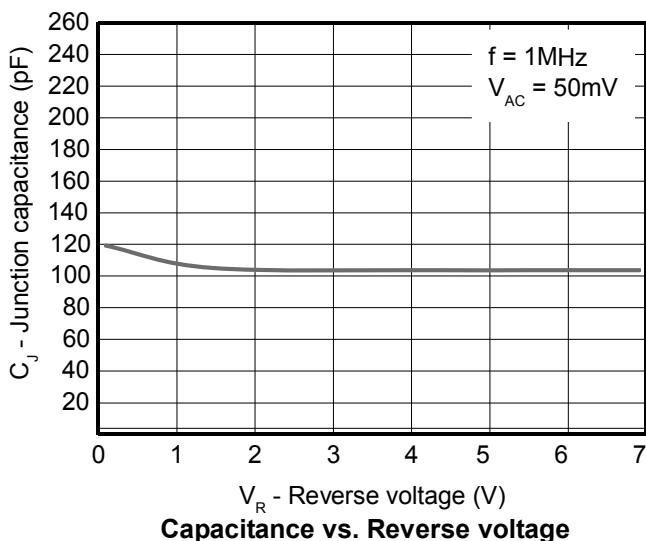
Non-repetitive peak pulse power vs. Pulse time



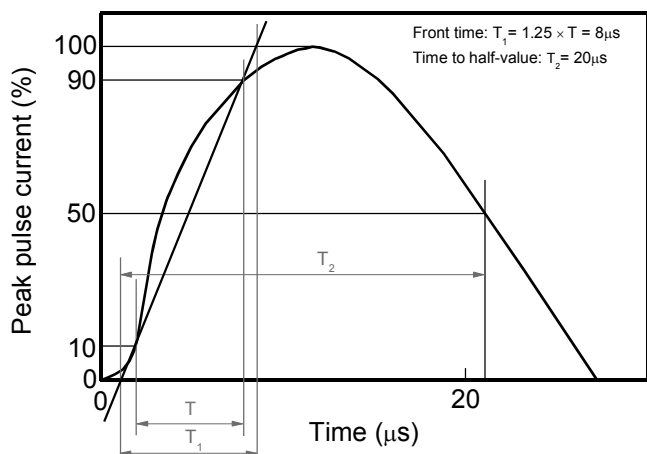
Power derating vs. Ambient temperature



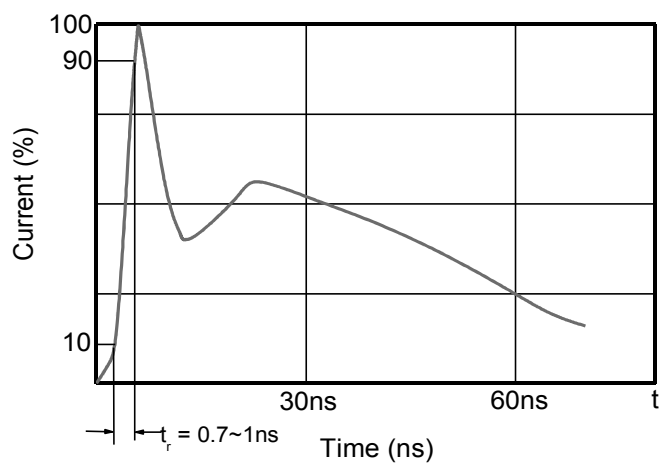
Clamping voltage vs. Peak pulse current



Capacitance vs. Reverse voltage



8/20μs waveform per IEC61000-4-5



Contact discharge current waveform per IEC61000-4-2

Ordering information

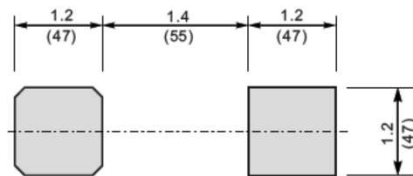
Package	Packing Description	Packing Quantity
SOD-323	Tape/Reel, 7" reel	3000PCS/Reel 120000PCS/Carton

Package Dimensions

SOD-323

Dim.	Millimeter(mm)		mil	
	Min.	Max.	Min.	Max.
A	0.8	1.1	32	43
C	0.08	0.15	3.1	5.9
D	1.2	1.4	47	55
E	1.4	1.8	63	70
E1	2.55	2.75	100	108
b	0.25	0.4	9.8	16
L1	0.2	0.45	7.9	16
A1	-	0.2	-	8
∠	9°			

The recommended mounting pad size



Unit: $\frac{\text{mm}}{(\text{mil})}$

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