

Transient Voltage Suppressor

FEATURES

- ♦ 2500 Watts Peak Pulse Power per Line ($t_P = 8/20\mu s$)
- ♦ Protects one I/O or power line
- ♦ Low Clamping Voltage
- ♦ Working Voltage: 4.5 V
- ♦ Low Leakage Current

IEC COMPATIBILITY (EN61000-4)

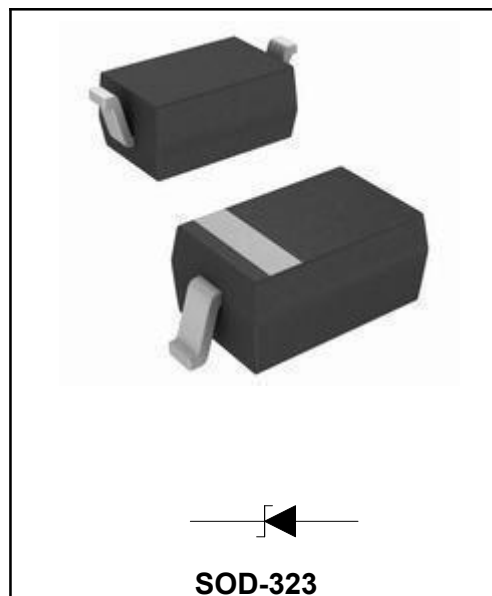
- ♦ IEC 61000-4-2 (ESD) $\pm 30kV$ (air), $\pm 30kV$ (contact)
- ♦ IEC 61000-4-4 (EFT) 40A (5/50ns)
- ♦ IEC 61000-4-5 (Lightning) 170A (8/20 μs)

APPLICATION

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

Mechanical Characteristics

- ♦ Case: SOD-323
- ♦ Molding compound flammability rating:
UL 94V-0
- ♦ Packaging : Tape and Reel per EIA 481
- ♦ RoHS Compliant



Marking Code

ESD4V5FD323

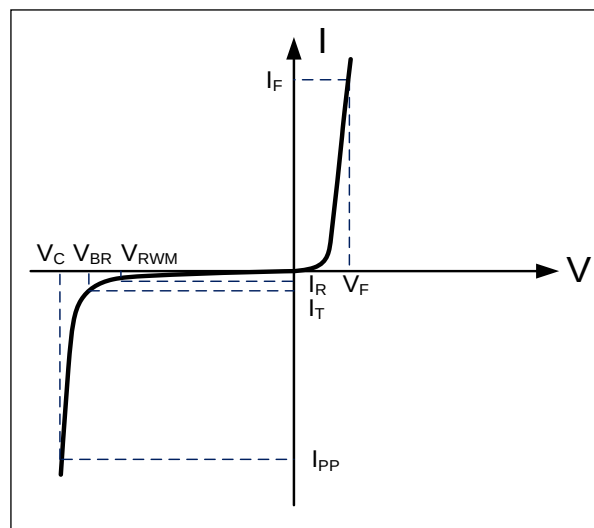
. 4T

Absolute Maximum Rating

Parameter	Symbol	Value	Unit
Peak Pulse Power $t_P = 8/20 \mu s$	P_{PP}	2500	W
Rated Peak Pulse Current $t_P = 8/20 \mu s$	I_{PP}	170	A
Junction Temperature	T_J	-55 to +125	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

Electrical Parameters (T=25°C)

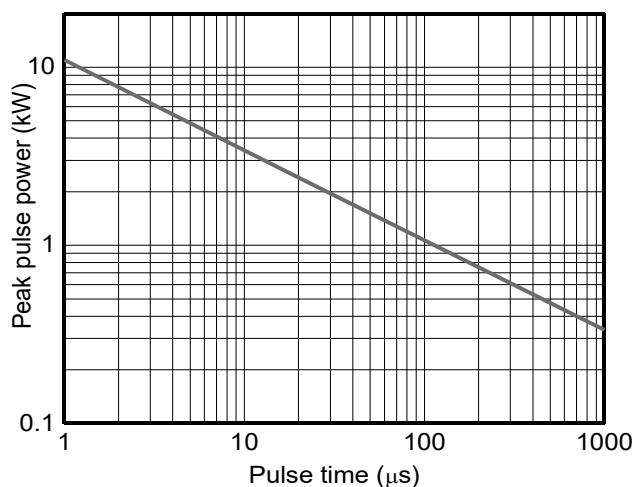
Symbol	Parameter
I_{PP}	Reverse Peak Pulse Current
V_C	Clamping Voltage @ I _{PP}
V_{RWM}	Reverse Stand-Off Voltage
I_R	Reverse Leakage Current @ V _{RWM}
V_{BR}	Breakdown Voltage @ I _T
I_T	Test Current



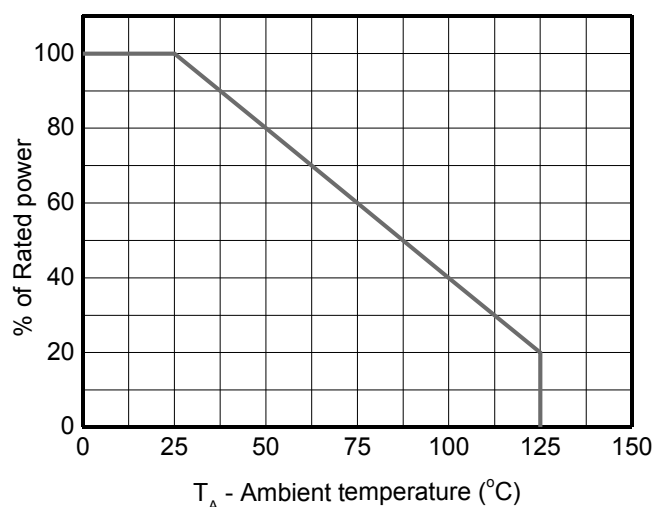
Electrical Characteristics

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Reverse Stand-Off Voltage		V_{RWM}	-	-	4.5	V
Reverse Breakdown Voltage	I _T = 1mA	V_{BR}	4.8	-	-	V
Reverse Leakage Current	V _{RWM} = 4.5 V	I_R	-	-	0.1	uA
Peak Pulse Current	t _p = 8/20μs	I_{PP}	-	170	-	A
Clamping Voltage	I _{PP} = 170A, t _p = 8/20μs	V_C	-	-	15	V
Junction Capacitance	V _R = 0V, f = 1 MHz	C_j	-	300	500	pF

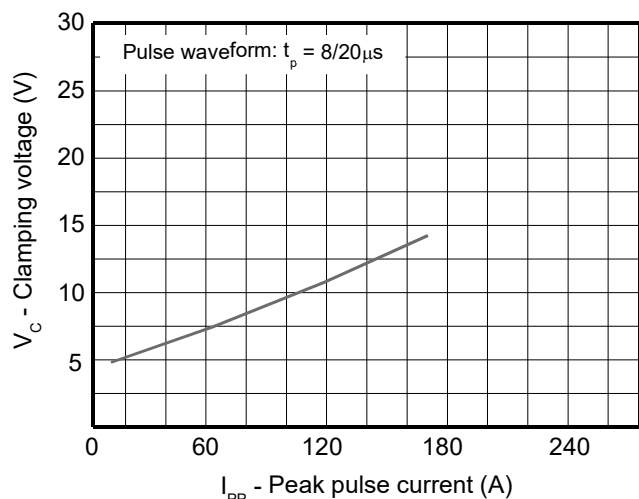
Typical Characteristics



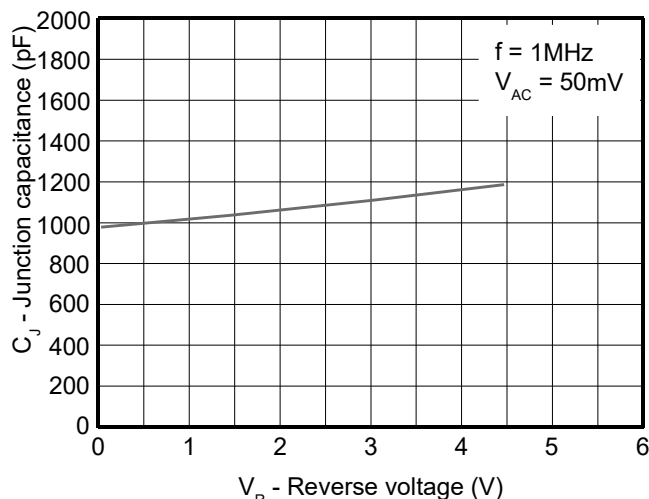
Non-repetitive peak pulse power vs. Pulse time



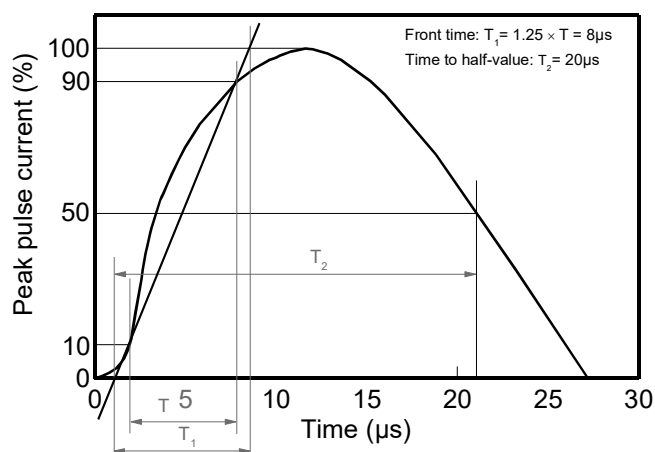
Power derating vs. Ambient temperature



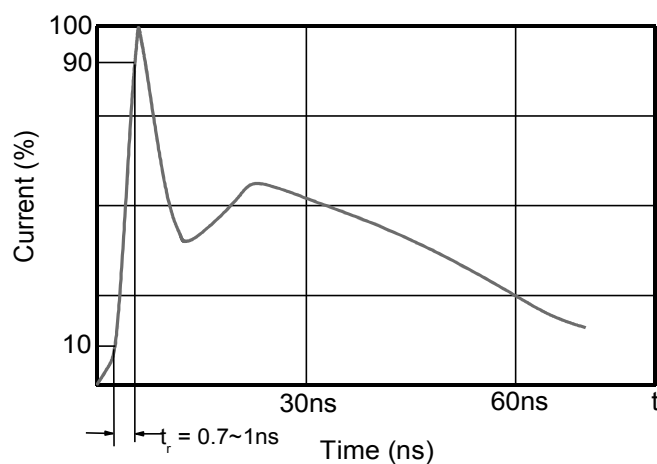
Clamping voltage vs. Peak pulse current



Capacitance vs. Reverse voltage



8/20 μ s waveform per IEC61000-4-5



Contact discharge current waveform per IEC61000-4-2

Ordering information

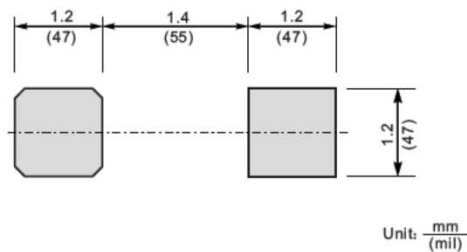
Package	Packing Description	Packing Quantity
SOD-323	Tape/Reel, 7" reel	3000PCS/Reel 120000PCS/Carton

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



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