



SSCT24V11D2

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1-Line Uni-directional TVS Diode

● Description

The SSCT24V11D2 is an Uni-directional high power TVS diode,utilizing leading monolithic silicon technology to provide fast response time and low ESD clamping voltage,making this device an ideal solution for protecting voltage sensitive data and power line. The SSCT24V11D2 complies with the IEC 61000-4-2 (ESD) with $\pm 30\text{kV}$ air and $\pm 30\text{kV}$ contact discharge. It is assembled into an ultra-small lead-free SOD-323 package. The small size and high ESD surge protection make SSCT24V11D2 an ideal choice to protect cell phone, digital cameras, audio players and many other portable applications.

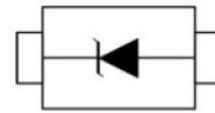
● Feature

- ◇ 1800W peak pulse power ($t_P = 8/20\mu\text{s}$)
- ◇ SOD-323 Package
- ◇ Working voltage: 24V
- ◇ Low clamping voltage
- ◇ High peak pulse current capability
- ◇ Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
Air discharge: $\pm 30\text{kV}$
Contact discharge: $\pm 30\text{kV}$
 - IEC61000-4-5 (EFT) 35A (8/20 μs)

● Electronic Parameter

Symbol	Parameter
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
P_{PP}	Peak Pulse Power
C	Junction Capacitance

● PIN configuration



Top view



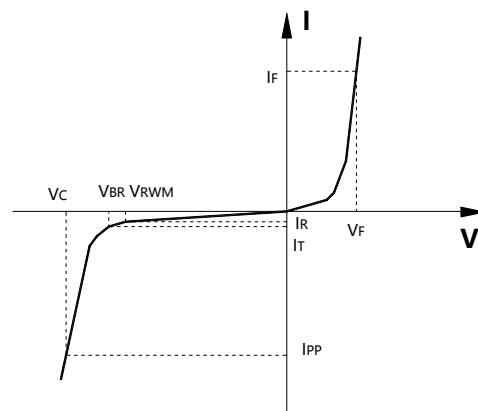
Marking

● Applications

- ◇ Mobile Phones and Accessories
- ◇ Battery Protection
- ◇ Power Supply Protection
- ◇ Hand Held Portable Applications
- ◇ Peripherals

● Mechanical data

- ◇ Case Material: “Green” Molding Compound.
- ◇ UL Flammability Classification Rating 94V-0
- ◇ Qualified max reflow temperature:260 $^{\circ}\text{C}$
- ◇ Device meets MSL 1 requirements
- ◇ Moisture Sensitivity: Level 3 per J-STD-020





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● Absolute maximum rating @TA=25°C

Parameter	Symbol	Value	Unit
Peak Pulse Power (tp=8/20μs waveform)	P _{PPP}	1800	W
Peak Pulse Current (tp=8/20μs waveform)	I _{PP}	35	A
ESD Rating per IEC61000-4-2:	Contact	30	KV
	Air	30	
Operating Temperature Range	T _J	-55 ~ 125	°C
Storage Temperature Range	T _{STG}	-55 ~ 150	°C

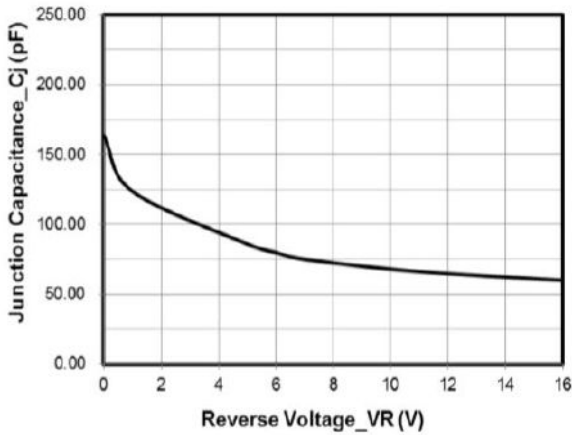
● Electrical Characteristics @TA=25°C

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V _{RWM}			24	V	
Breakdown Voltage	V _{BR}	26.7			V	I _T = 1mA
Reverse Leakage Current	I _R			0.2	uA	V _{RWM} = 24V
Clamping Voltage	V _C			42	V	I _{PP} = 10A (8 x 20uS pulse)
Clamping Voltage	V _C			54	V	I _{PP} = 35A (8 x 20uS pulse)
Junction Capacitance	C _J		200		pF	V _R = 0V, f = 1MHz

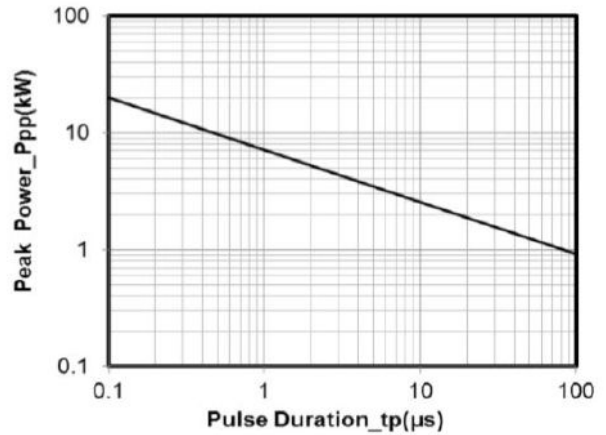


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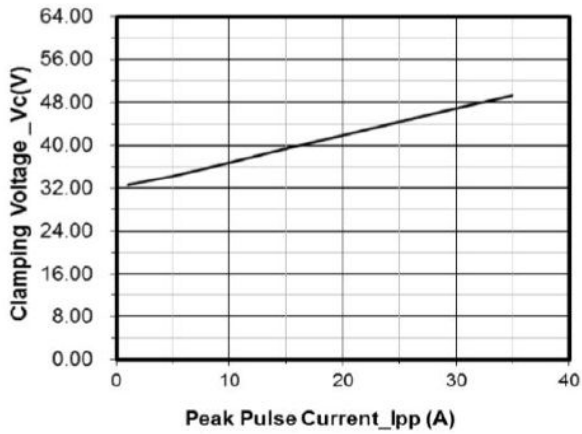
● Typical Performance Characteristics



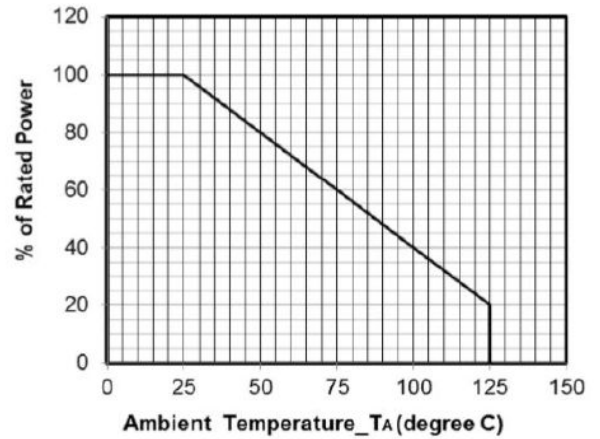
Junction Capacitance vs. Reverse Voltage



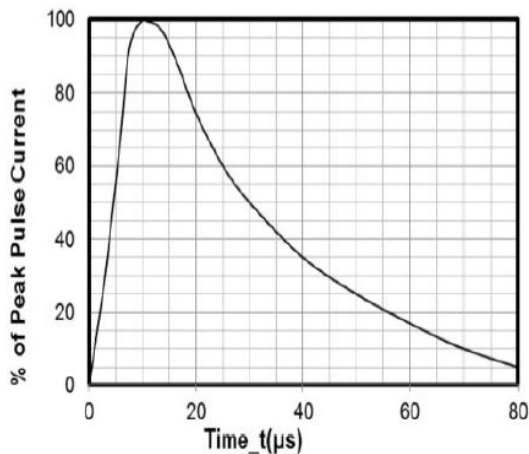
Peak Pulse Power vs. Pulse Time



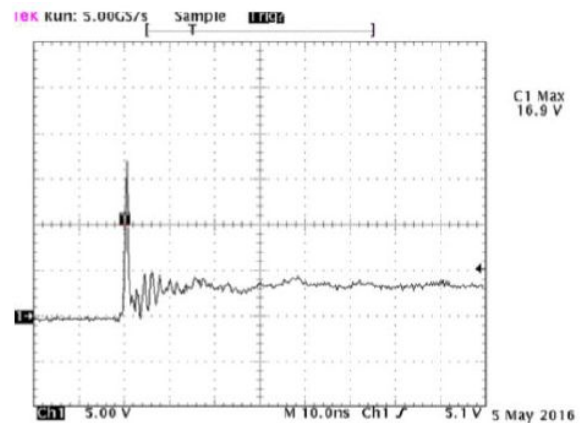
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve



8 X 20μs Pulse Waveform



Note: Data is taken with a 10x attenuator
ESD Clamping Voltage
8 kV Contact per IEC61000-4-2



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- **Package Information**

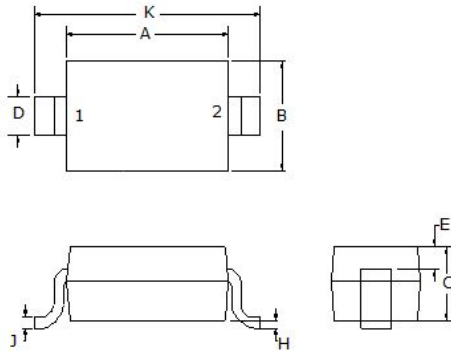
Ordering Information

Device	Package	Qty per Reel	Reel Size
SSCT24V11D2	SOD-323	3000	7 Inch

Mechanical Data

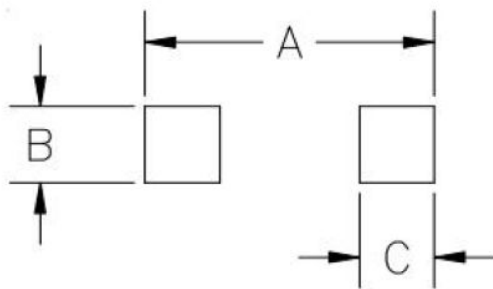
Case: SOD-323

Case Material: Molded Plastic. UL Flammability



Dim	Dimensions			
	Millimeters		Inches	
	Min	Max	Min	Max
A	1.50	1.80	0.060	0.071
B	1.2	1.40	0.045	0.054
C	-	1.10	-	0.043
D	0.30	0.40	0.012	0.016
H	-	0.10	-	0.004
J	0.10	0.25	0.004	0.010
K	2.30	2.70	0.090	0.107

Recommended Pad outline



Dim	Dimensions	
	Millimeters	Inches
A	3.15	0.120
B	0.80	0.031
C	0.80	0.031



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