SSCT7V011D2

1-line Uni-directional Micro Packaged TVS Diode

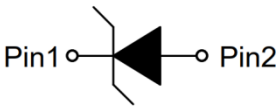
Description

The SSCT7V011D2 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. It complies with the IEC 61000-4-2 (ESD) with ±30kV air and ±30kV contact discharge. It is assembled into an ultra-small lead free SOD-323 package.

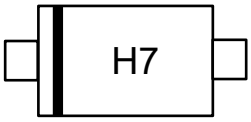
The small size and high ESD surge protection make SSCT7V011D2 an ideal choice to protect cell phone, digital cameras, audio players and many other portable applications.

PIN configuration

SOD-323



Circuit diagram



Marking(Top View)

Feature

- 2400W peak pulse power (t_P = 8/20us)
- SOD-323 Package
- Working voltage: 7V
- Low clamping voltage
- Low capacitance
- Low leakage current
- Response Time is<1 ns
- RoHS compliant
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    Air discharge: ±30kV
    Contact discharge: ±30kV
  - IEC61000-4-5 (Surge) 130A (8/20us)

Applications

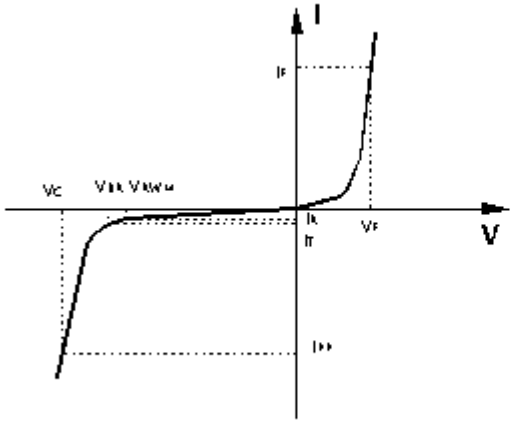
- Power Line
- Serial and Parallel Ports
- Notebooks, Desktops, Servers
- Projection TV
- Cellular handsets and accessories
- Portable instrumentation
- Peripherals

Mechanical data

- Lead finish:100% matte Sn (Tin)
- Mounting position: Any
- Qualified max reflow temperature:260℃
- Device meets MSL 3 requirements
- Pure tin plating: 7 ~ 17 um
- Pin flatness: ≤3mil

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_J	Junction Capacitance



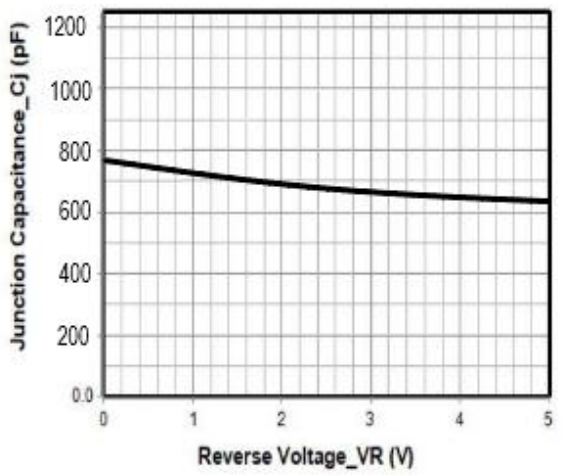
Absolute maximum rating @TA=25℃

Parameter	Symbol	Value	Unit
Peak Pulse Power（8/20us）	P_{PP}	2400	W
Peak Pulse Current（8/20us）	I_{PP}	130	A
ESD Rating per IEC61000-4-2： Contact Air	V_{ESD}	30 30	KV
Storage Temperature	T_{STG}	-55/+150	℃
Operating Temperature	T_J	-55/+125	℃

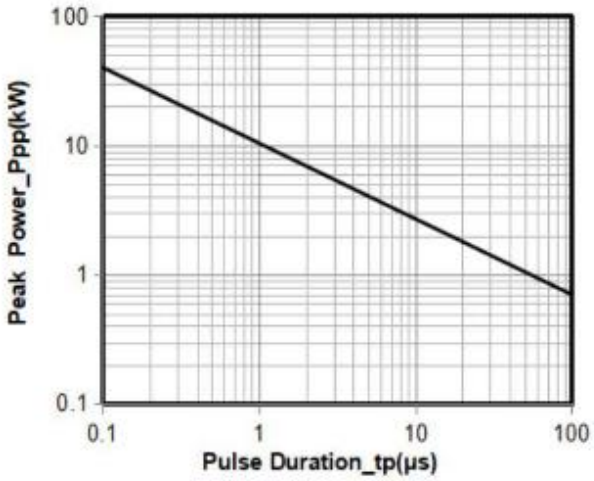
Electrical Characteristics @TA=25℃

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Peak Reverse Working Voltage	V_{RWM}				7	V
Breakdown Voltage	V_{BR}	I_T = 1mA	7.8			V
Reverse Leakage Current	I_R	V_{RWM} =7V			1	μA
Clamping Voltage	V_C	I_{PP} = 10A, t_P = 8/20us		9.5		V
Clamping Voltage	V_C	I_{PP}=130A, t_P = 8/20us		15	18	V
Junction Capacitance	C_J	V_R=0V, f = 1MHz		800	1100	pF

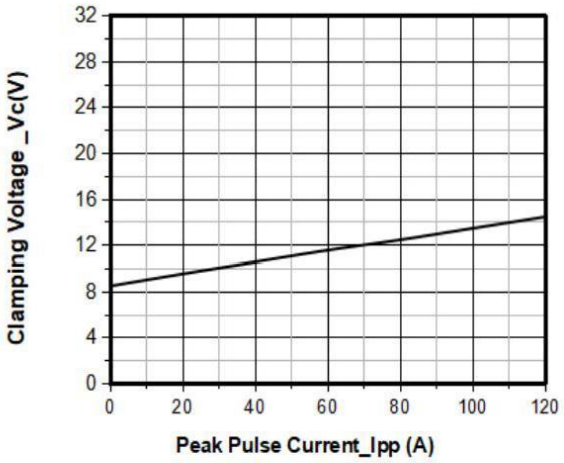
- **Typical Performance Characteristics**



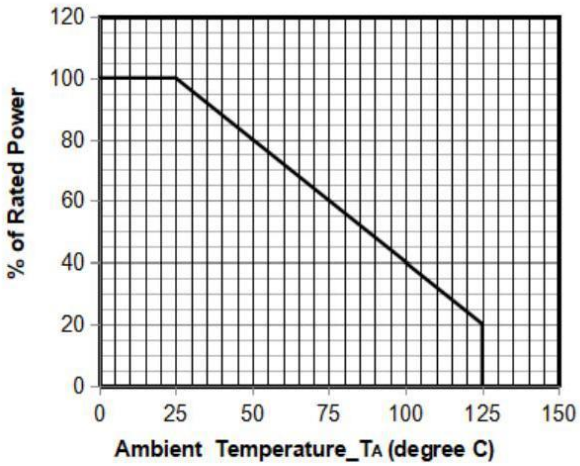
Junction Capacitance vs. Reverse Voltage



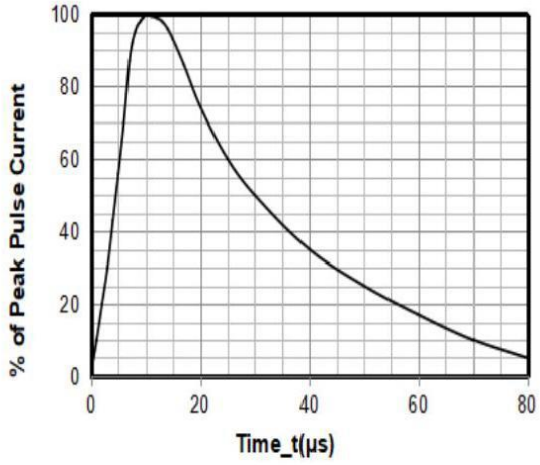
Peak Pulse Power vs. Pulse Time



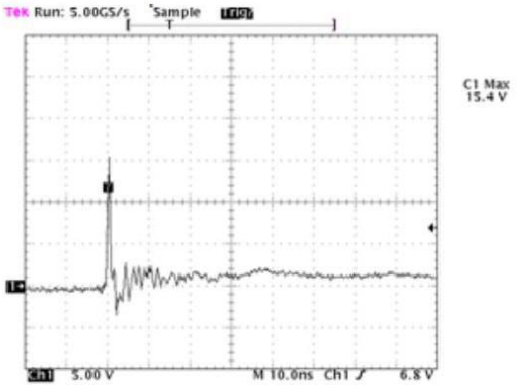
Clamping Voltage vs. Peak Pulse Current (tp = 8/20μs)



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

Peak pulse current,IPP(A)

- **Package Information**

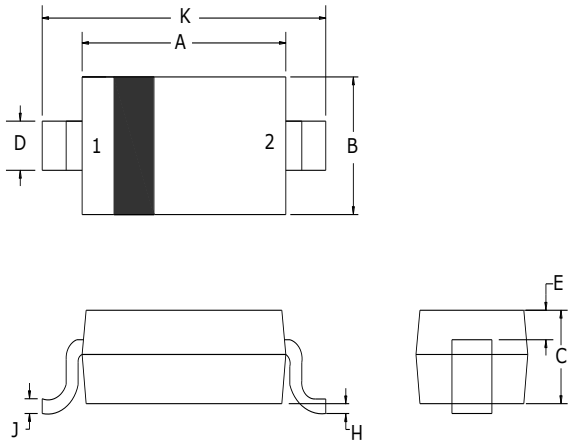
Ordering Information

Device	Package	Qty per Reel	Reel Size
SSCT7V011D2	SOD-323	3000	7 Inch

Mechanical Data

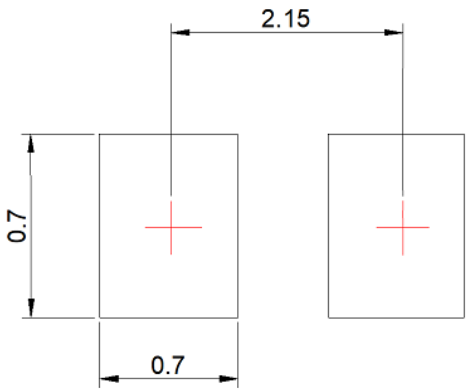
Case: SOD-323

Case Material: Molded Plastic. UL Flammability



Dim	Millimeters	
	Min	Max
A	1.60	1.80
B	1.2	1.40
C	0.80	0.90
D	0.25	0.35
E	0.15REF	
H	0	0.10
J	0.08	0.15
K	2.50	2.70

Recommended Pad outline



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