



SSCT8V022D2

1-line Bi-directional TVS Diode

● Description

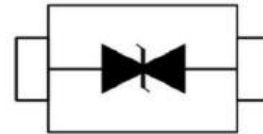
The SSCT8V022D2 is a bi-directional TVS diode, utilizing leading monolithic silicon technology to provide fast response time and low ESD clamping voltage, making this device an ideal solution for protecting voltage sensitive high-speed data lines.

The SSCT8V022D2 complies with the IEC 61000-4-2 (ESD) standard with $\pm 30\text{kV}$ air and $\pm 30\text{kV}$ contact discharge. It is assembled into a leadfree SOD-323 package. The small size, low capacitance and high ESD surge protection make SSCT8V022D2 an ideal choice to protect cell phone, wireless systems, and communication equipment.

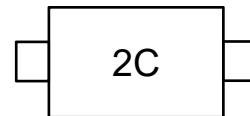
● Feature

- ✧ 350W peak pulse power ($t_p = 8/20\mu\text{s}$)
- ✧ SOD-323 Package
- ✧ Working voltage: 8V
- ✧ Low clamping voltage
- ✧ Low capacitance
- ✧ Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 30\text{kV}$
 - Contact discharge: $\pm 30\text{kV}$
 - IEC61000-4-4 (EFT) 15A (8/20ns)

● PIN configuration



Top view



Marking(Top View)

● Applications

- ✧ Cell Phone Handsets and Accessories
- ✧ Microprocessor based equipment
- ✧ Personal Digital Assistants (PDA's)
- ✧ Notebooks, Desktops, and Servers
- ✧ Portable Instrumentation
- ✧ Networking and Telecom
- ✧ Serial and Parallel Ports.
- ✧ Peripherals

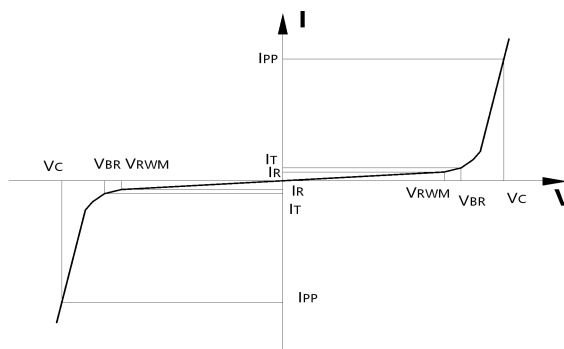
● Mechanical data

- ✧ Case Material: "Green" Molding Compound.
- ✧ UL Flammability Classification Rating 94V-0
- ✧ Qualified max reflow temperature: 260°C
- ✧ Device meets MSL 3 requirements
- ✧ Moisture Sensitivity: Level 3 per J-STD-020



● 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
Cap	Junction Capacitance



● Absolute maximum rating @ $T_A=25^{\circ}\text{C}$

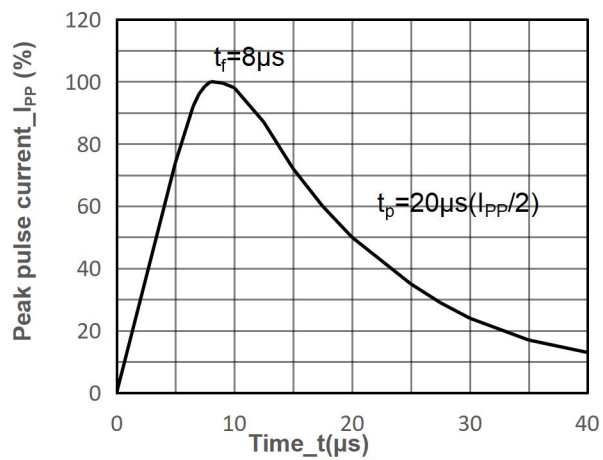
Parameter	Symbol	Value	Unit
Peak Pulse Power ($t_p=8/20\mu\text{s}$ waveform)	P_{PP}	350	W
Peak Pulse Current ($t_p=8/20\mu\text{s}$ waveform)	I_{PP}	15	A
ESD Rating per IEC61000-4-2:	V_{ESD}	30	kV
Contact		30	
Air			
Operating Temperature Range	T_J	$-55 \sim 125$	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	$-55 \sim 150$	$^{\circ}\text{C}$

● Electrical Characteristics @ $T_A=25^{\circ}\text{C}$

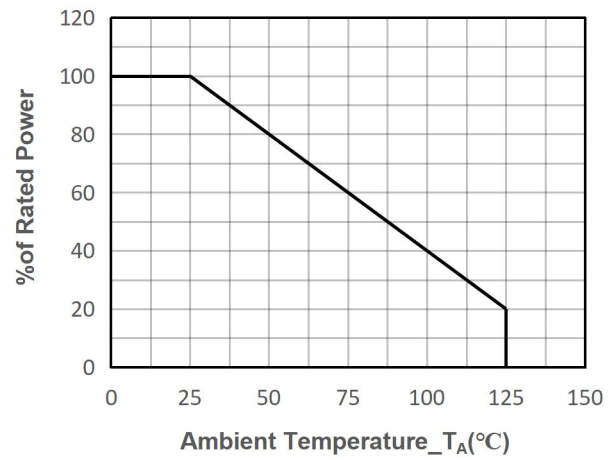
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				8	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	8.5			V
Reverse Leakage Current	I_R	$V_{RWM} = 8\text{V}$			2	μA
Clamping Voltage	V_C	$I_{PP} = 1\text{A}$ (8 x 20 μs pulse)			13.4	V
Clamping Voltage	V_C	$I_{PP} = 15\text{A}$ (8 x 20 μs pulse)			24	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$			120	pF



- Typical Performance Characteristics



8/20 μs Pulse Waveform



Power derating vs. Ambient temperature



● Package Information

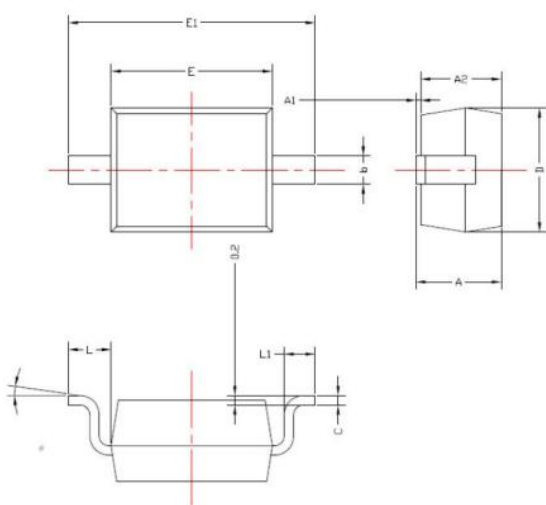
Ordering Information

Device	Package	Qty per Reel	Reel Size
SSCT8V022D2	SOD-323	3000	7 Inch

Mechanical Data

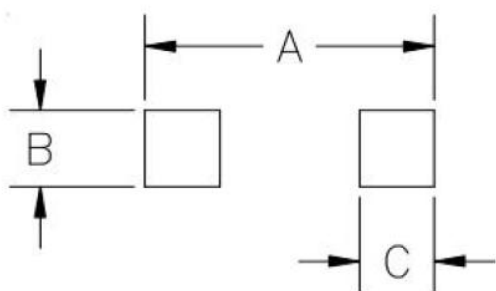
Case: SOD-323

Case Material: Molded Plastic. UL Flammability



DIM	Millimeters	
	Min	Max
A	0.75	1.05
A1	0.00	0.10
A2	0.75	0.95
b	0.20	0.40
c	0.08	0.15
D	1.20	1.40
E	1.60	1.80
E1	2.45	2.75
L	0.475REF	
L1	0.20	0.40
θ	0°	8°

Recommended Pad outline(Unit:mm)



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



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