SSCE3V312D2

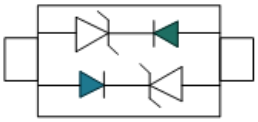
1-line Bidirectional Micro Packaged TVS Diodes for ESD Protection

● Description

The SSCE3V312D2 is ultra-low capacitance transient voltage suppressor array, designed to protect applications such as portable electronics and SMART phones. At higher operating frequencies or faster edge rates, insertion loss and signal integrity are a major concern. This series offers an ultra-low capacitance and low leakage current in a miniature SOD-323 package.

● PIN configuration

SOD-323



Circuit Diagram

Marking(Top View)

● Feature

- ✧ 350W peak pulse power (t_P = 8/20μs)
- ✧ Working voltage: 3.3V
- ✧ Low clamping voltage
- ✧ Low capacitance
- ✧ Low leakage current
- ✧ Complies with following standards:
  - – IEC 61000-4-2 (ESD) immunity test
    - Air discharge: ±30kV
    - Contact discharge: ±30kV
  - – IEC61000-4-5 (Lightning) 8A (8/20μs)

● Applications

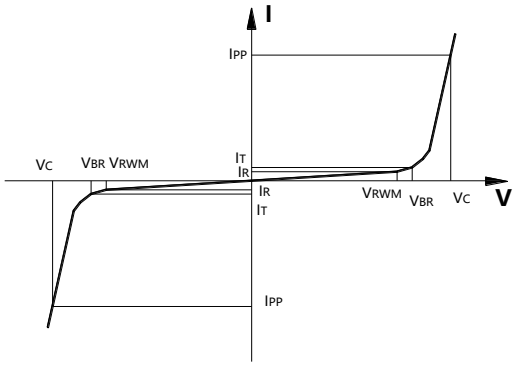
- ✧ Hand−Held Portable Applications
- ✧ Networking and Telecom (Ethernet 10/100/1000 Base T)
- ✧ USB Interface
- ✧ Automotive Electronics
- ✧ Serial and Parallel Ports
- ✧ Notebooks, Desktops, Servers

● Mechanical data

- ✧ Package: SOD-323
- ✧ Lead finish: 100% matte Sn (Tin)
- ✧ Device meets MSL 3 requirements
- ✧ Case Material: “Green” Molding Compound
- ✧ RoHS Compliant
- ✧ Pure tin plating:7~17um
- ✧ 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



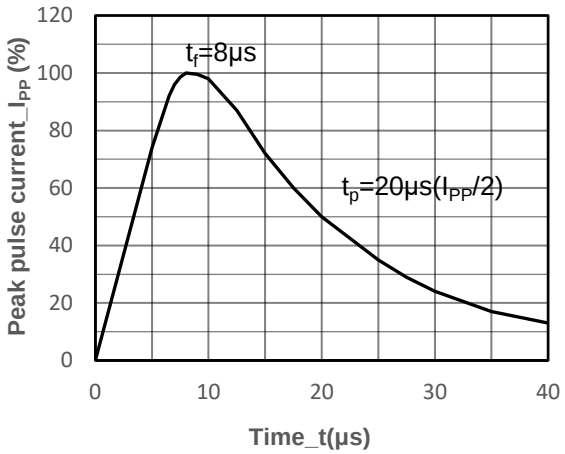
Absolute maximum rating @T_A=25℃

Parameter	Symbol	Value	Unit
Peak Pulse Power（8/20μs）	P_{PP}	100	W
Peak Pulse Current（8/20μs）	I_{PP}	8	A
ESD Rating per IEC61000-4-2： Contact Air	V_{ESD}	±25 ±25	kV
Storage Temperature	T_{STG}	-55/+150	℃
Operating Temperature	T_J	-55/+125	℃

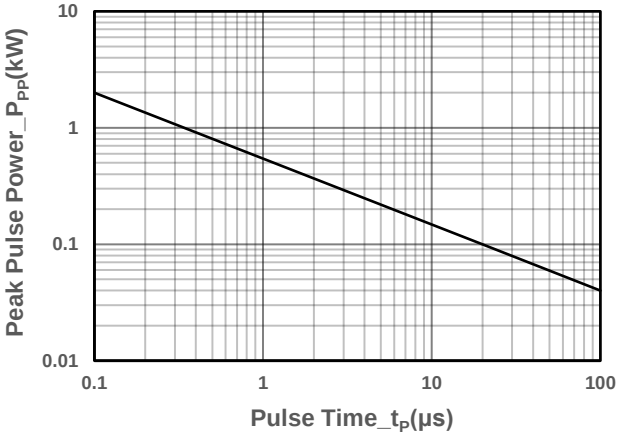
Electrical Characteristics @T_A=25℃

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Peak Reverse Working Voltage	V_{RWM}				5	V
Breakdown Voltage	V_{BR}	I_T = 1mA	5.6			V
Reverse Leakage Current	I_R	V_{RWM} = 5V			1	μA
Clamping Voltage	V_C	I_{PP} = 1A, t_P = 8/20μs			8	V
Clamping Voltage	V_C	I_{PP} = 8A, t_P = 8/20μs		10	13	V
Junction Capacitance	C_J	V_R = 0V, f = 1MHz		15	20	pF

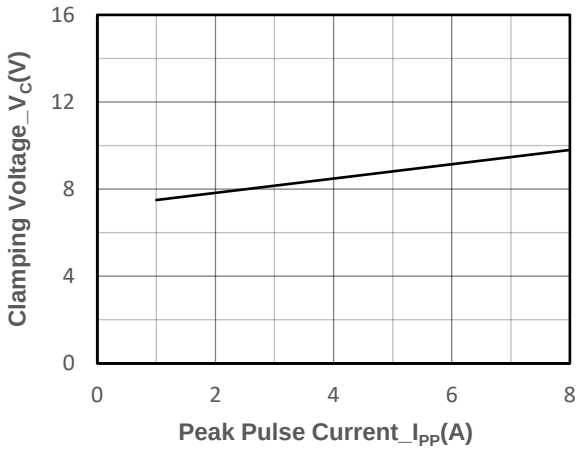
Typical Performance Characteristics



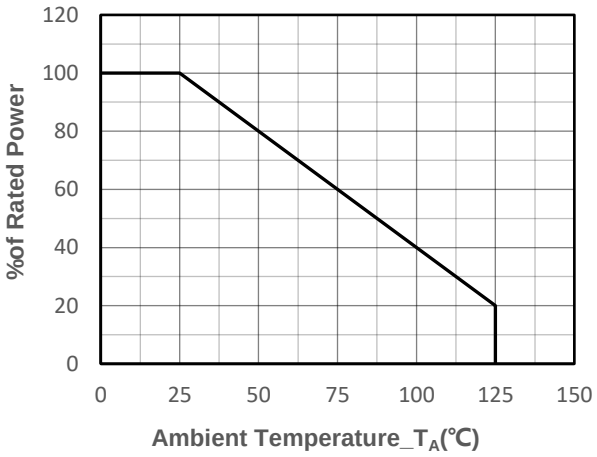
8/20μs Pulse Waveform



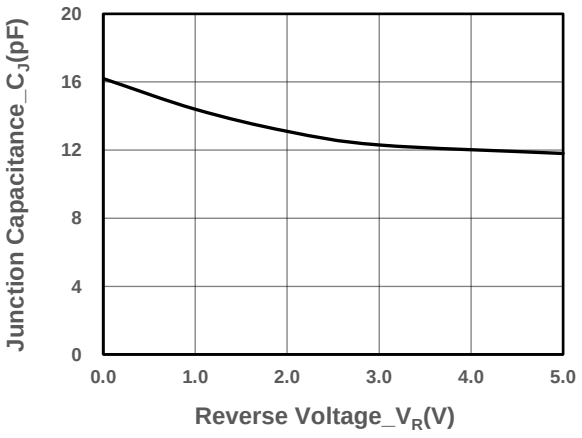
Peak Pulse Power vs. Pulse Time



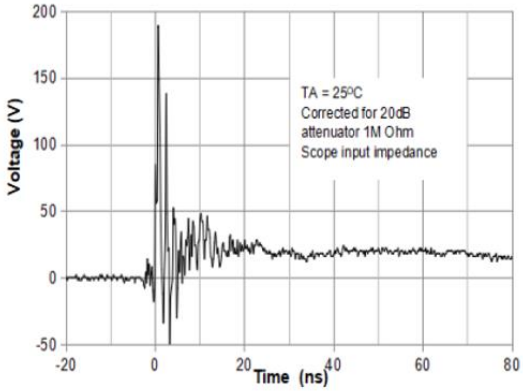
Clamping Voltage vs. Peak Pulse Current



Power derating vs. Ambient temperature



Junction Capacitance vs. Reverse Voltage



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

Package Information

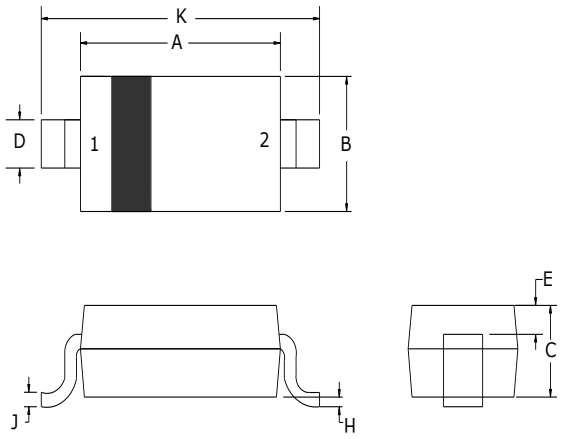
Ordering Information

Device	Package	Qty per Reel	Reel Size
SSCE5V042D2	SOD-323	3000	7 Inch

Mechanical Data

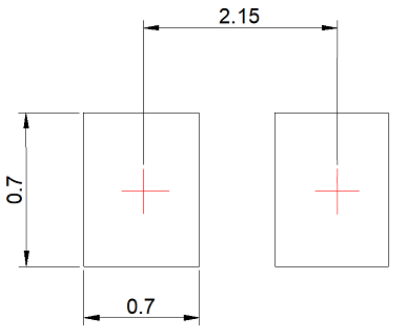
Case: SOD-323

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 (Unit: mm)



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