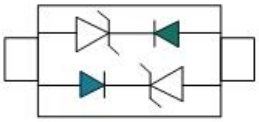
SSCE3V312D2

Bidirectional Ultra-low Capacitance TVS ARRAY

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



Top view

Marking

Feature

- 350W peak pulse power (tP = 8/20μs)
- SOD-323 Package
- Working voltage: 3.3V
- Low clamping voltage
- Low capacitance
- RoHS compliant transient protection for high speed data lines to IEC61000-4-2(ESD)±30kV(air),±30kV(contact)

Applications

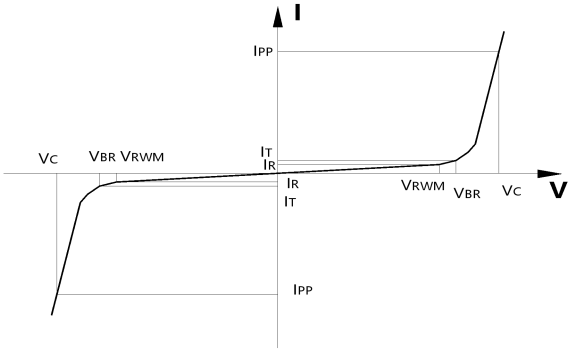
- Hand−Held Portable Applications
- Networking and Telecom(Ethernet 10/100/1000 Base T)
- USB Interface
- Automotive Electronics
- Serial and Parallel Ports
- Notebooks, Desktops, Servers

Mechanical data

- Lead finish:100% matte Sn(Tin)
- Mounting position: Any
- Qualified max reflow temperature:260℃
- Device meets MSL 1 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	Junction Capacitance



Absolute maximum rating @TA=25℃

Parameter	Symbol	Value	Unit
Peak Pulse Power (tp=8/20μs waveform)	P_{PP}	350	W
Peak Pulse Current (tp=8/20μs waveform)	I_{PP}	20	A
ESD Rating per IEC61000-4-2： Contact Air		30 30	KV
Operating Temperature Range	T_J	-55 ~ 150	℃
Storage Temperature Range	T_{STG}	-55 ~ 150	℃
Lead Solder Temperature – Maximum (10 Second Duration)	T_L	260	℃

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

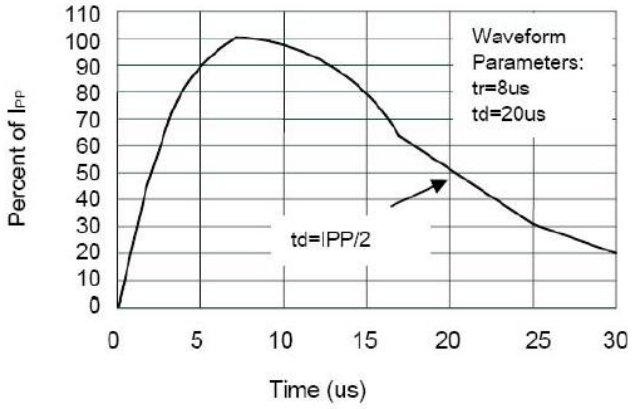
**Other voltages may be available upon request.*

1. Non-repetitive current pulse, per Figure 1.

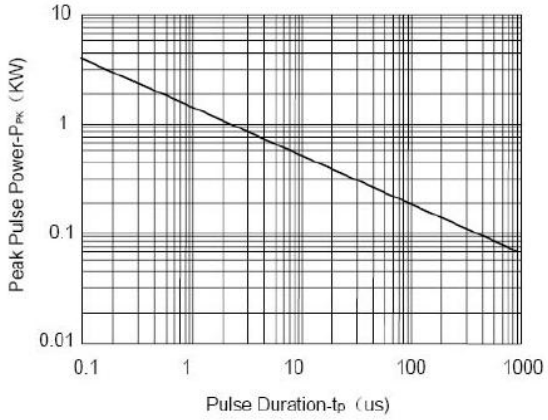
Electrical Characteristics @TA=25℃

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Peak Reverse Working Voltage	V_{RWM}				3.3	V
Breakdown Voltage	V_{BR}	It = 1mA	4			V
Reverse Leakage Current	I_R	VRWM =3.3V			5	μA
Clamping Voltage	V_C	IPP = 1A, tP = 8/20μs			7.5	V
Clamping Voltage	V_C	IPP = 20A, tP = 8/20μs			20	V
Junction Capacitance	C_J	VR=0V, f = 1MHz		0.8	1.5	pF

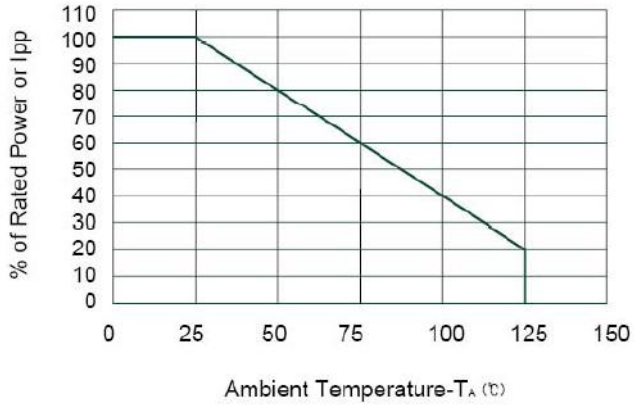
- **Typical Performance Characteristics**



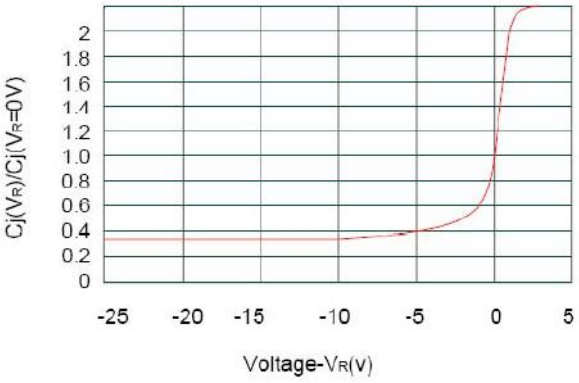
Pulse Waveform



Non-Repetitive Peak Pulse Power vs. Pulse Time



Power Derating Curve



Junction Capacitance vs. Reverse Voltage

- **Package Information**

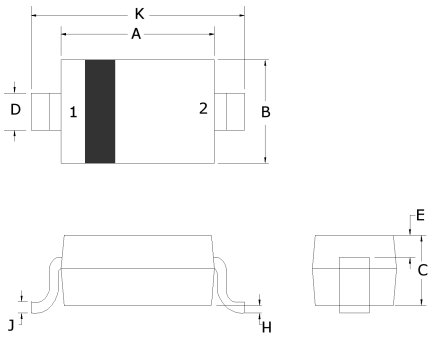
Ordering Information

Device	Package	Qty per Reel	Reel Size
SSCE3V312D2	SOD-323	3000	7 Inch

Mechanical Data

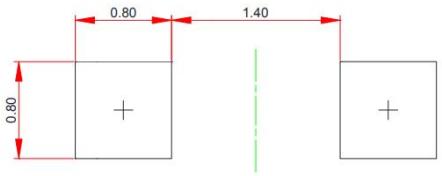
Case: SOD-323

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



- **History Version**

V3.0	Product datasheet	2021-07-21
V3.1	Add marking Icon	2022-04-18

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