SSCE3V311D3

1-line Uni-directional Micro Packaged TVS Diodes for ESD Protection

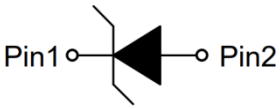
Description

The SSCE3V311D3 Series is designed to protect voltage sensitive components from ESD. Excellent clamping capability, low leakage, and fast response time provide best in class protection on designs that are exposed to ESD. Because of its small size, it is suited for use in cellular phones, MP3 players, digital cameras and many other portable applications where board space comes at a premium.

This series has been specifically designed to protect sensitive components which are connected to data and transmission lines from overvoltage caused by ESD(electrostatic discharge), and EFT (electrical fast transients).

PIN configuration

SOD-523



Circuit diagram

Marking(Top View)

Feature

- ✧ 150W peak pulse power (t_P = 8/20us)
- ✧ SOD-523 Package
- ✧ Working voltage: 3.3V
- ✧ Low clamping voltage
- ✧ Low capacitance
- ✧ Low leakage current
- ✧ Response Time is<1 ns
- ✧ RoHS compliant
- ✧ IEC61000-4-2(ESD)±30kV(air), ±25kV(contact)
- ✧ IEC61000-4-5(Surge)11A(8/20us)

Applications

- ✧ USB 2.0 Power & Data Line Protection
- ✧ DVI & HDMI Port Protection
- ✧ Serial ATA Port Protection
- ✧ Mobile Handsets
- ✧ Digital Cameras and camcorders
- ✧ PDA & MP3 Players
- ✧ Digital TV and Set-top Boxes

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

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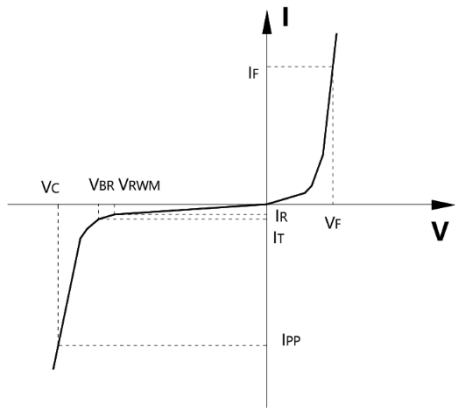
- **Electronic Parameter**

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



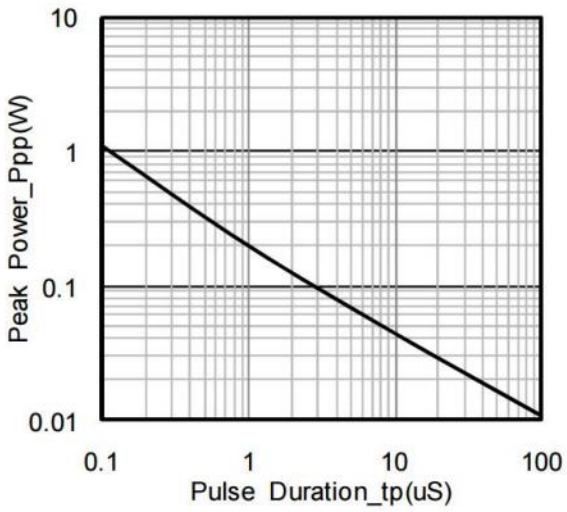
- **Absolute maximum rating @TA=25℃**

Parameter		Symbol	Value	Unit
Peak Pulse Power（8/20us）		P_{PP}	150	W
Peak Pulse Current（8/20us）		I_{PP}	11	A
ESD Rating per IEC61000-4-2：	Contact Air	V_{ESD}	25 30	KV
Storage Temperature		T_{STG}	-55/+150	℃
Operating Temperature		T_J	-55/+125	℃

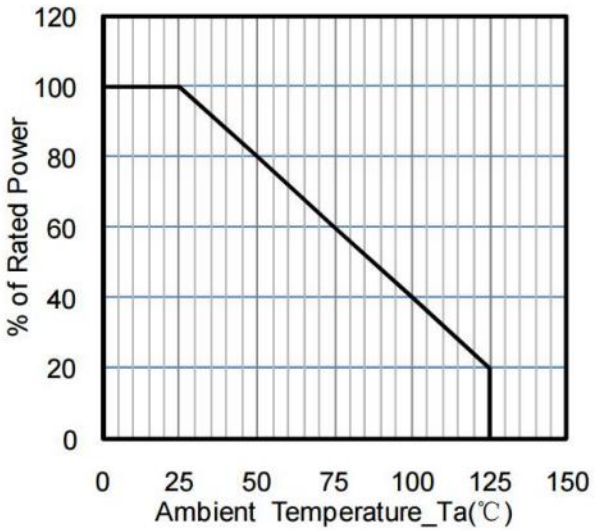
- **Electrical Characteristics @TA=25℃**

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Peak Reverse Working Voltage	V_{RWM}				3.3	V
Breakdown Voltage	V_{BR}	I_T = 1mA	5			V
Reverse Leakage Current	I_R	V_{RWM} =3.3V			1	μA
Clamping Voltage	V_C	I_{PP} = 1A, t_P = 8/20us		7		V
Clamping Voltage	V_C	I_{PP}=11A, t_P = 8/20us			14	V
Junction Capacitance	C_J	V_R=0V, f = 1MHz		105		pF

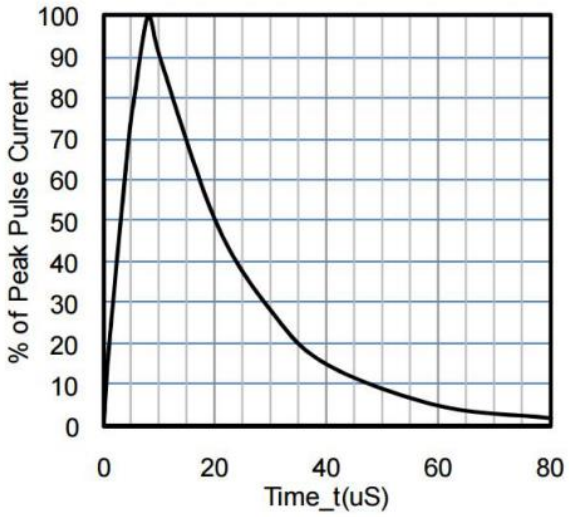
- **Typical Performance Characteristics**



Peak Pulse Power vs. Pulse Time



Power Derating Curve



8 X 20uS Pulse Waveform

● Package Information

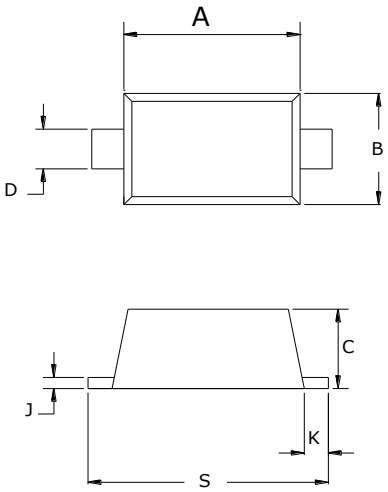
Ordering Information

Device	Package	Qty per Reel	Reel Size
SSCE3V311D3	SOD-523	3000	7 Inch

Mechanical Data

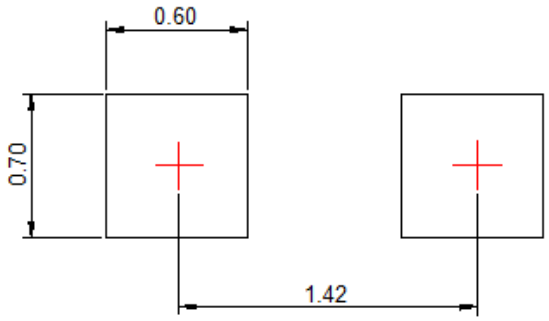
Case: SOD-523

Case Material: Molded Plastic. UL Flammability



DIM	Millimeters	
	Min	Max
A	1.10	1.30
B	0.75	0.85
C	0.51	0.70
D	0.25	0.35
J	0.08	0.15
K	0.15	0.25
S	1.50	1.70

Recommended Pad outline



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