



## SSCE12V11D3

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

### ● Description

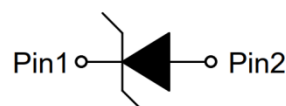
The SSCE12V11D3 Series is designed to protect voltage sensitive components from ESD. Excellent clamping capability, low leakage, and fast response time provide best in class protection on designs that are exposed to ESD. Because of its small size, it is suited for use in cellular phones, MP3 players, 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).

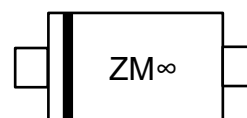
### ● PIN configuration



**SOD-523**



**Circuit diagram**



**Marking(Top View)**

### ● Feature

- ✧ 180W peak pulse power ( $t_P = 8/20\mu s$ )
- ✧ SOD-523 Package
- ✧ Working voltage: 12V
- ✧ Low clamping voltage
- ✧ Low capacitance
- ✧ Low leakage current
- ✧ Response Time is  $< 1\text{ ns}$
- ✧ RoHS compliant
- ✧ IEC61000-4-2(ESD) $\pm 30\text{ kV}$ (air),  $\pm 25\text{ kV}$ (contact)
- ✧ IEC61000-4-5(Surge)6A(8/20 $\mu s$ )

### ● 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

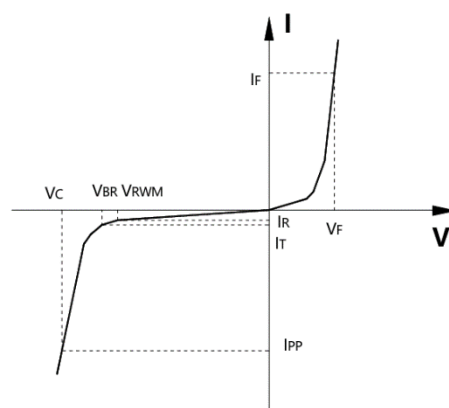
### ● Mechanical data

- ✧ Lead finish: 100% matte Sn (Tin)
- ✧ Mounting position: Any
- ✧ Qualified max reflow temperature:  $260^\circ\text{C}$
- ✧ Device meets MSL 3 requirements
- ✧ Pure tin plating:  $7 \sim 17\text{ }\mu\text{m}$
- ✧ Pin flatness:  $\leq 3\text{ mil}$



## ● 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℃

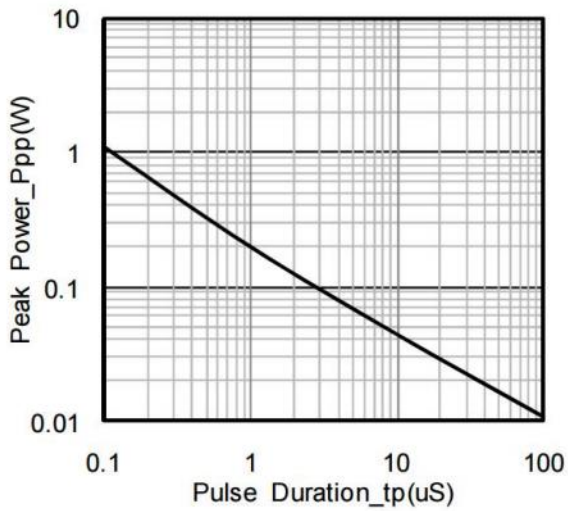
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20us)	$P_{PP}$	180	W
Peak Pulse Current (8/20us)	$I_{PP}$	6	A
ESD Rating per IEC61000-4-2: Contact Air	$V_{ESD}$	25 30	KV
Storage Temperature	$T_{STG}$	-55/+150	℃
Operating Temperature	$T_J$	-55/+125	℃

## ● Electrical Characteristics @TA=25℃

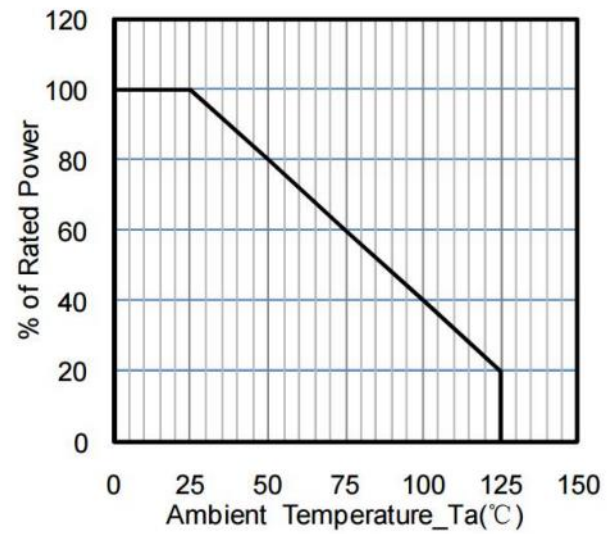
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Peak Reverse Working Voltage	$V_{RWM}$				12	V
Breakdown Voltage	$V_{BR}$	$I_T = 1mA$	13.3			V
Reverse Leakage Current	$I_R$	$V_{RWM} = 12V$			1	$\mu A$
Clamping Voltage	$V_C$	$I_{PP} = 1A, t_P = 8/20us$		23		V
Clamping Voltage	$V_C$	$I_{PP} = 6A, t_P = 8/20us$			30	V
Junction Capacitance	$C_J$	$V_R = 0V, f = 1MHz$		30		pF



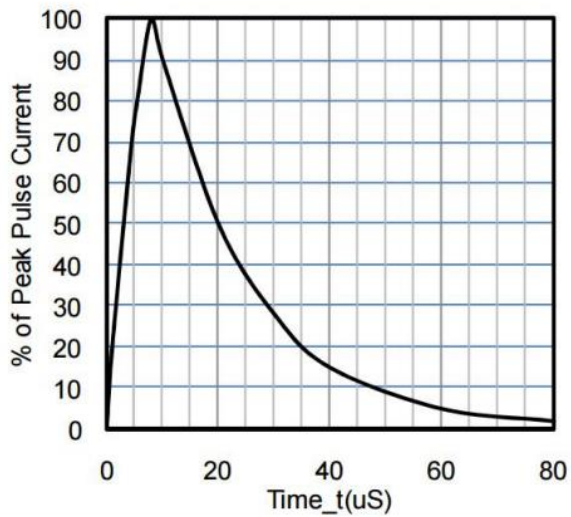
- Typical Performance Characteristics



Peak Pulse Power vs. Pulse Time



Power Derating Curve



8 X 20uS Pulse Waveform



## ● Package Information

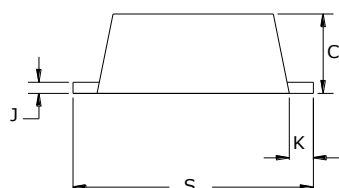
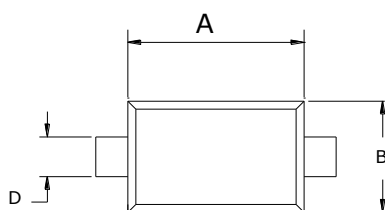
### Ordering Information

Device	Package	Qty per Reel	Reel Size
SSCE12V11D3	SOD-523	3000	7 Inch

### Mechanical Data

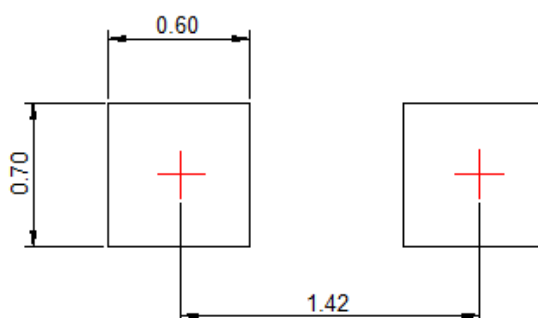
Case: SOD-523

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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