



## SSCE5V012D2

Bidirectional Ultra-low Capacitance TVS ARRAY

### ● Description

The SSCE8V012D2 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.

### ● Feature

- ✧ 350W peak pulse power ( $t_P = 8/20\mu s$ )
- ✧ SOD-323 Package
- ✧ Working voltage:5V
- ✧ Low clamping voltage
- ✧ Low capacitance
- ✧ Low leakage current
- ✧ Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test  
Air discharge:  $\pm 30kV$   
Contact discharge:  $\pm 30kV$
  - IEC61000-4-5 (Lightning) 18A (8/20 $\mu s$ )

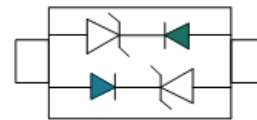
### ● Applications

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

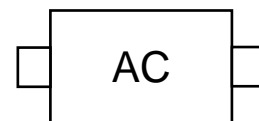
### ● PIN configuration



**SOD-323**



**Circuit Diagram**



**Marking(Top View)**

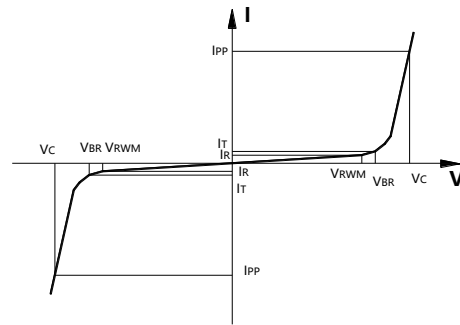
### ● Mechanical data

- ✧ Package: SOD-323
- ✧ Lead finish: 100% matte Sn (Tin)
- ✧ Device meets MSL 3 requirements
- ✧ Case Material: "Green" Molding Compound
- ✧ RoHS Compliant
- ✧ Pure tin plating:7~17 $\mu m$
- ✧ Pin flatness:  $\leq 3mil$



## ● 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 @ $T_A=25^\circ\text{C}$

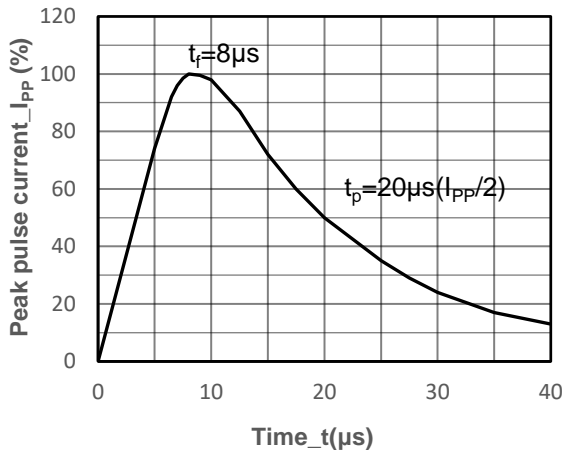
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 $\mu\text{s}$ )	$P_{PP}$	350	W
Peak Pulse Current (8/20 $\mu\text{s}$ )	$I_{PP}$	18	A
ESD Rating per IEC61000-4-2: Contact Air	$V_{ESD}$	$\pm 30$ $\pm 30$	kV
Storage Temperature	$T_{STG}$	-55/+150	$^\circ\text{C}$
Operating Temperature	$T_J$	-55/+125	$^\circ\text{C}$

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

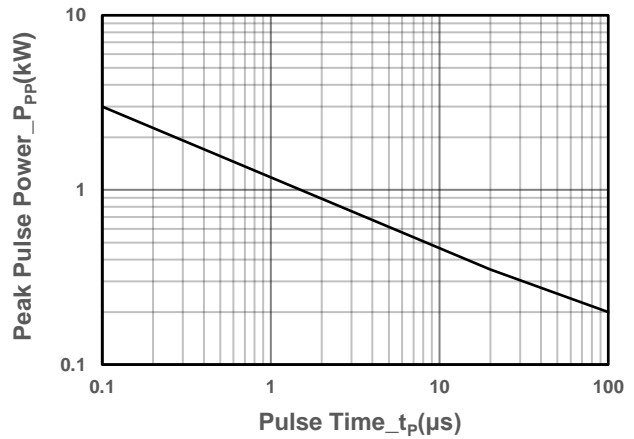
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Peak Reverse Working Voltage	$V_{RWM}$				5	V
Breakdown Voltage	$V_{BR}$	$I_T = 1\text{mA}$	6			V
Reverse Leakage Current	$I_R$	$V_{RWM} = 5\text{V}$			1	$\mu\text{A}$
Clamping Voltage	$V_C$	$I_{PP} = 1\text{A}$ , $t_P = 8/20\mu\text{s}$			9.8	V
Clamping Voltage	$V_C$	$I_{PP} = 18\text{A}$ , $t_P = 8/20\mu\text{s}$			20	V
Junction Capacitance	$C_J$	$V_R = 0\text{V}$ , $f = 1\text{MHz}$		0.8	1.5	pF



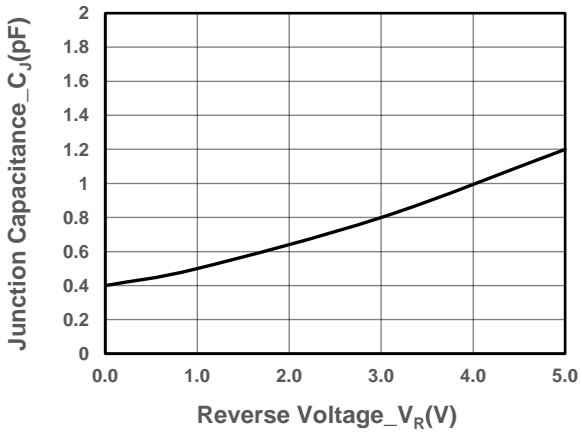
## ● Typical Performance Characteristics



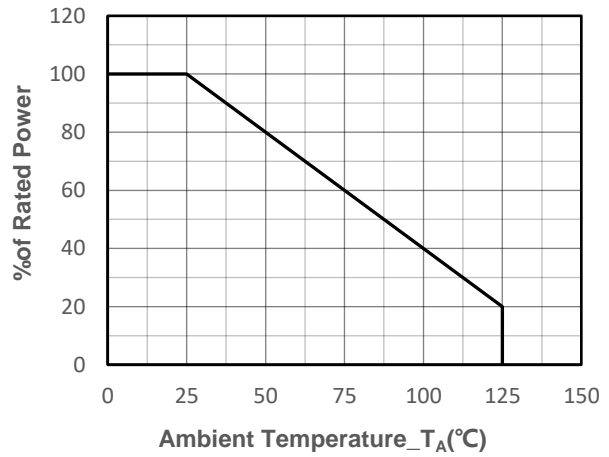
8/20 $\mu$ s Pulse Waveform



Peak Pulse Power vs. Pulse Time



Junction Capacitance vs. Reverse Voltage



Power derating vs. Ambient temperature



## ● Package Information

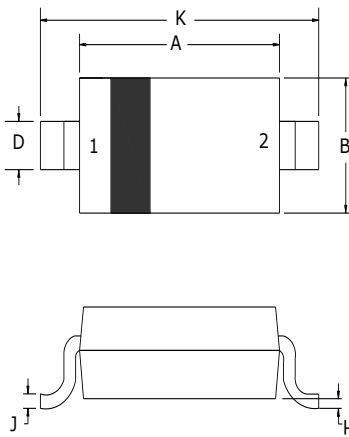
### Ordering Information

Device	Package	Qty per Reel	Reel Size
SSCE5V012D2	SOD-323	3000	7 Inch

### Mechanical Data

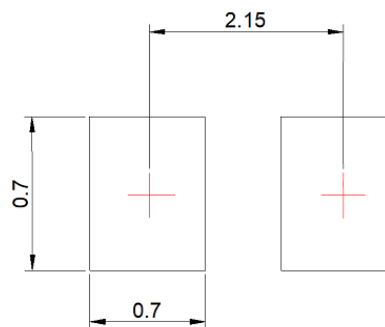
Case: SOD-323

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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