



SSCE7V011D3

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Low-Capacitance Uni-directional TVS Diodes for ESD Protection

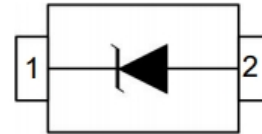
● Description

The SSCE7V011D3 is an uni-directional TVS diode, utilizing leading monolithic silicon technology to provide fast response time and low ESD clamping voltage, making this device an ideal solution for protecting voltage sensitive data and power line. The SSCE7V011D3 complies with the IEC 61000-4-2 (ESD) with $\pm 30\text{kV}$ air and $\pm 30\text{kV}$ contact discharge. The small size and high ESD surge protection make SSCE7V011D3 an ideal choice to protect cell phone, digital cameras, audio players and many other portable applications.

● Features

- ✧ Protects one data or power line
- ✧ Working voltage: 7V
- ✧ 2-pin SOD-523 package
- ✧ Low leakage current
- ✧ Low clamping voltage
- ✧ Complies with following standards:
 - IEC61000-4-2(ESD) $\pm 30\text{Kv}$ (contact), $\pm 30\text{kV}$ (air)
- ✧ RoHS Compliant

● PIN configuration



Top view



Marking

● Applications

- ✧ Cellular Handsets and Accessories
- ✧ Personal Digital Assistants
- ✧ Notebooks and Handhelds
- ✧ Portable Instrumentation
- ✧ Digital Cameras
- ✧ Peripherals
- ✧ Audio Players
- ✧ Keypads, Side Keys, LCD Displays

● Mechanical Characteristics

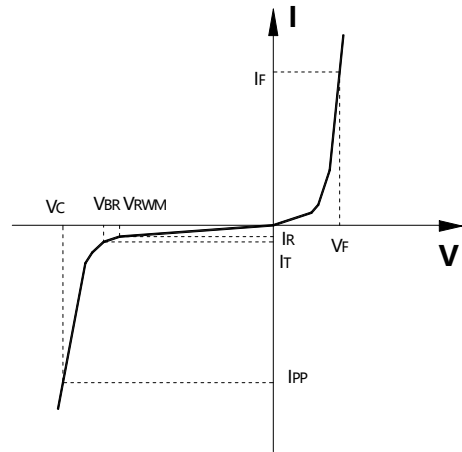
- ✧ Package: SOD-523
- ✧ Case Material: "Green" Molding Compound.
- ✧ UL Flammability Classification Rating 94V-0
- ✧ Moisture Sensitivity: Level 3 per J-STD-020
- ✧ Terminal Connections: See Diagram Below
- ✧ Marking Information: See Below



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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_{PPP}	Peak Pulse Power
C	Junction Capacitance



● Absolute maximum rating @ $T_A=25^\circ\text{C}$

Symbol	Parameter	Value	Units
V_{ESD}	ESD Rating per IEC61000-4-2:Contact Air	± 30 ± 30	KV
P_{PPP}	Peak Pulse Power (8/20 μs)	200	W
I_{PP}	Peak Pulse Current (8/20 μs)	8	A
T_{STG}	Storage Temperature	-55/+150	$^\circ\text{C}$
T_J	Operating Temperature	-55/+125	$^\circ\text{C}$

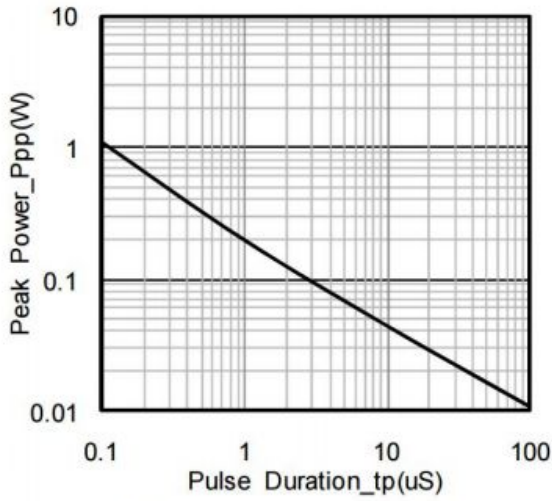
● Electrical Characteristics @ $T_A=25^\circ\text{C}$

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Peak Reverse Working Voltage	V_{RWM}	Any I/O to Ground			7	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	7.5			V
Reverse Leakage Current	I_R	$V_{RWM} = 7\text{V}$, $T = 25^\circ\text{C}$			0.2	μA
Clamping Voltage	V_{C1}	$I_{PP} = 1\text{A}$, $t_P = 8/20\mu\text{s}$		12		V
Clamping Voltage	V_{C2}	$I_{PP} = 8.8\text{A}$, $t_P = 8/20\mu\text{s}$			22.7	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$,		60		pF

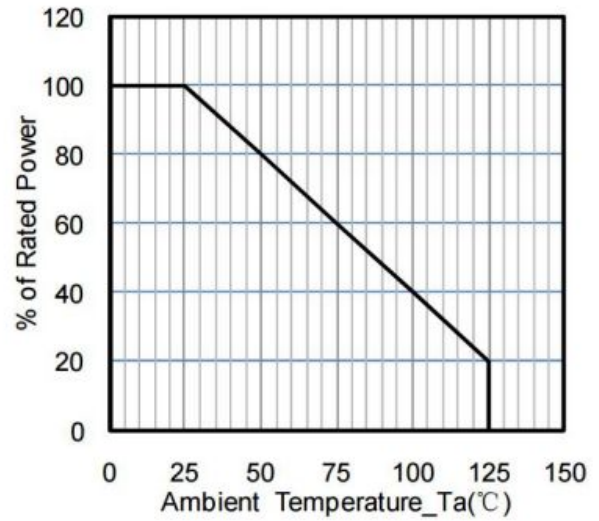


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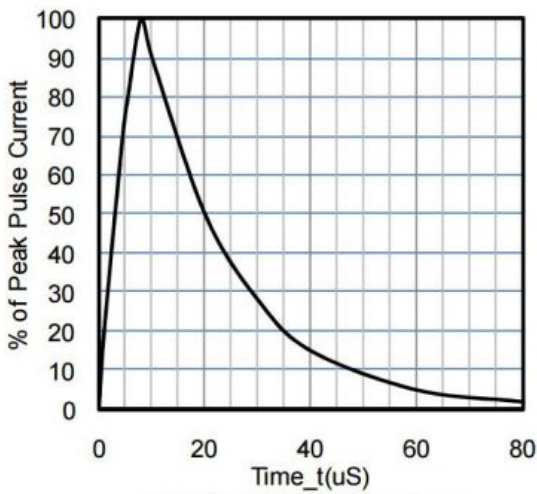
- Typical Performance Characteristics($T_A=25^{\circ}\text{C}$ unless otherwise Specified)



Peak Pulse Power vs. Pulse Time



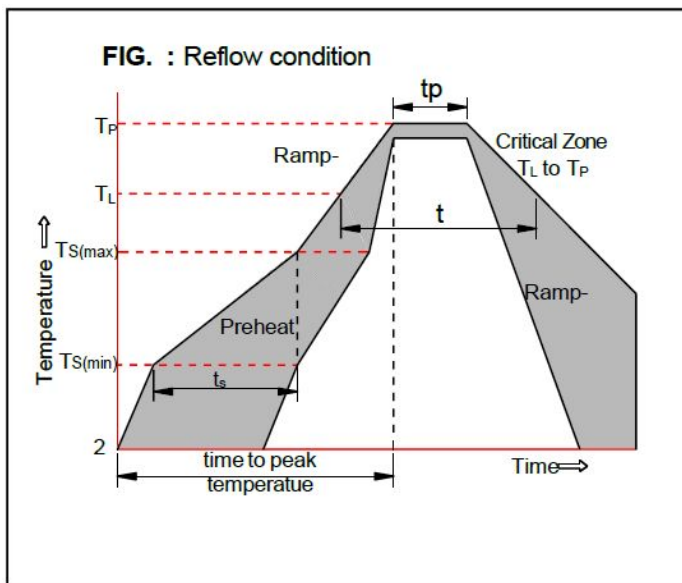
Power Derating Curve



8 X 20uS Pulse Waveform

- Soldering Parameters**

Reflow Condition		Pb-Free assembly (see as bellow)
Pre Heat	-Temperature Min (Ts(min))	+150°C
	-Temperature Max(Ts(max))	+200°C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (TL) to peak)		3°C/sec. Max
Ts(max) to TL - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature(TL)(Liquid us)	+217°C
	-Temperature(TL)	60-150 secs.
Peak Temp (Tp)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (tp)		30 secs. Max
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp (TP)		8 min. Max
Do not exceed		+260°C





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● Package Information

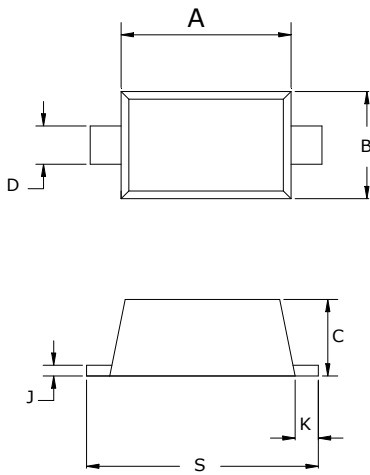
Ordering Information

Device	Package	Qty per Reel	Reel Size
SSCE7V011D3	SOD-523	3000	7 Inch

Mechanical Data

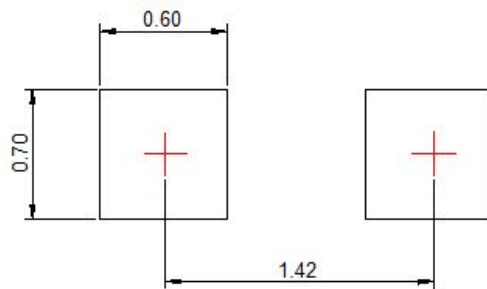
Case: SOD-523

Case Material: Molded Plastic. UL Flammability



DIM	Millimeters	
	Min	Max
A	1.10	1.30
B	0.75	0.85
C	0.51	0.77
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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