



SSCE5V011N7

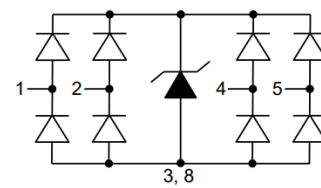
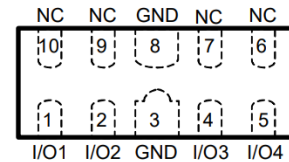
Ultra Low Capacitance Array for ESD Protection

● Description

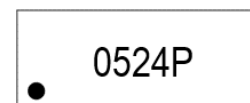
The SSCE5V011N7 provides a typical line to line capacitance of 0.2pF between I/O pins and low insertion loss up to 3GHz providing greater signal integrity making it ideally suited for HDMI applications, such as Digital TVS, DVD players, Computing, set-top boxes and MDDI applications in mobile computing devices.

It has been specifically designed to protect sensitive components which are connected to high-speed data and transmission lines from overvoltage caused by ESD (electrostatic discharge), CDE (Cable Discharge Events), and EFT (electrical fast transients).

● PIN configuration



Top View



Marking

● Feature

- ✧ 45W peak pulse power ($t_P = 8/20\mu s$)
- ✧ DFN2510-10L Package
- ✧ Working voltage: 5V
- ✧ Low clamping voltage
- ✧ Low capacitance
- ✧ Low leakage current
- ✧ RoHS compliant
- ✧ Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 25kV$
 - Contact discharge: $\pm 25kV$

● Applications

- ✧ DVI & HDMI Port Protection
- ✧ Serial and Parallel Ports
- ✧ Projection TV
- ✧ Notebooks, Desktops, Server
- ✧ USB 1.1/2.0/3.0/3.1/OTG
- ✧ HDMI 1.3, HDMI 1.4 and HDMI 2.0

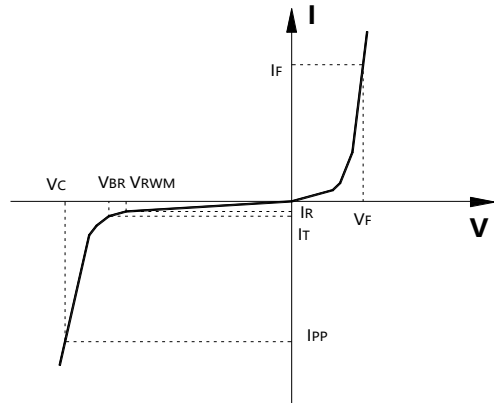
● Mechanical data

- ✧ Lead finish: 100% matte Sn(Tin)
- ✧ Mounting position: Any
- ✧ Qualified max reflow temperature: $260^\circ C$
- ✧ Device meets MSL 1 requirements
- ✧ Pure tin plating: $7 \sim 17 \mu m$
- ✧ 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 @ $T_A=25^{\circ}\text{C}$**

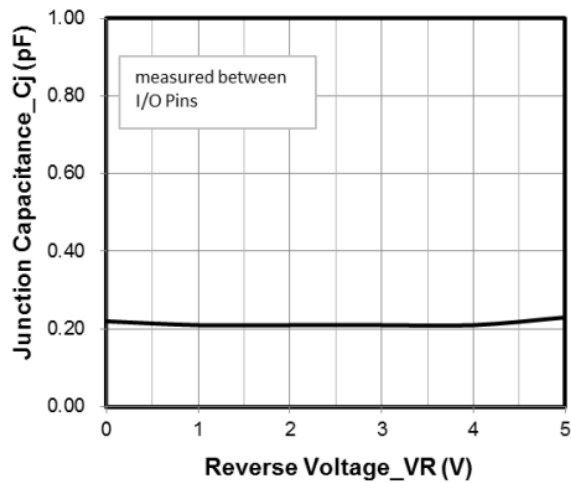
Parameter	Symbol	Value	Units
Peak Pulse Power ($t_P = 8/20\mu\text{s}$)	P_{PP}	45	W
Peak Pulse Current ($t_P = 8/20\mu\text{s}$)	I_{PP}	3.4	A
ESD Rating per IEC61000-4-2:	V_{ESD}	25	kV
Contact		25	
Air			
Storage Temperature	T_{STG}	-55/+150	$^{\circ}\text{C}$
Operating Temperature	T_J	-55/+125	$^{\circ}\text{C}$

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

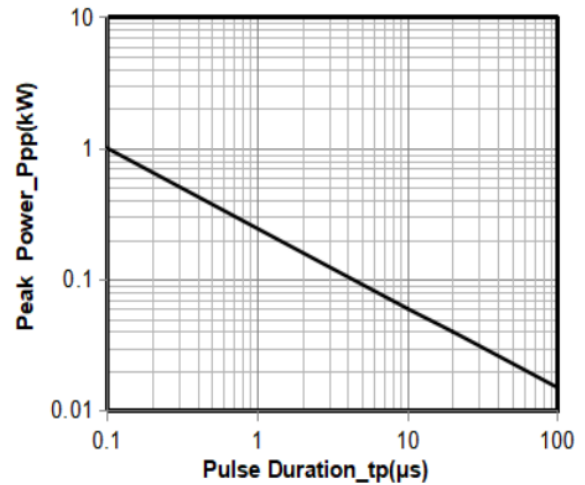
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Peak Reverse Working Voltage	V_{RWM}	Any I/O to GND			5	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$, Any I/O to GND	6			V
Reverse Leakage Current	I_R	$V_{RWM} = 5\text{V}$			100	nA
Diode Forward Voltage	V_F	$I_F = 15\text{mA}$		0.85	1.2	V
Clamping Voltage	V_C	$I_{PP} = 1\text{A}$, $t_P = 8/20\mu\text{s}$		8.7		V
Clamping Voltage	V_C	$I_{PP} = 3.4\text{A}$, $t_P = 8/20\mu\text{s}$		11.7	13	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$, between I/O pins		0.2	0.3	pF
		$V_R = 0\text{V}$, $f = 1\text{MHz}$, any I/O pin to GND		0.3	0.5	pF



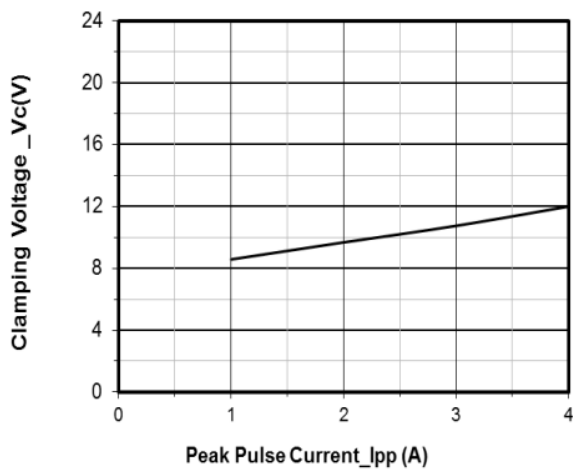
Typical Performance Characteristics



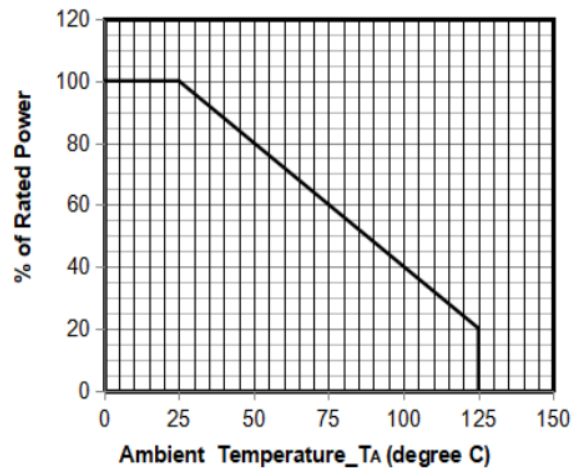
Junction Capacitance vs. Reverse Voltage



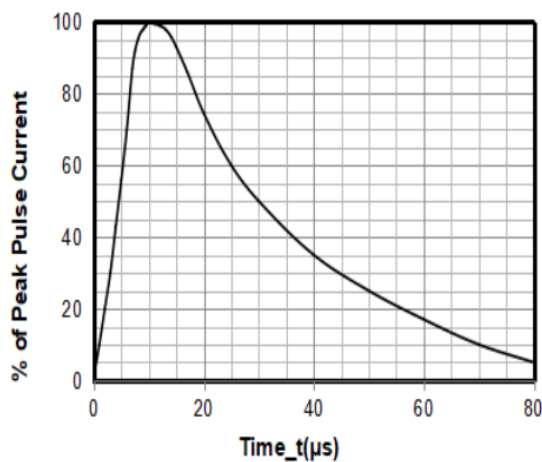
Peak Pulse Power vs. Pulse Time



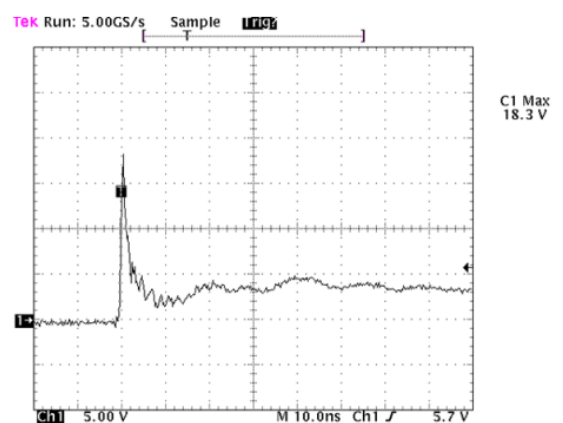
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve



8 X 20μs Pulse Waveform



Note: Data is taken with a 10x attenuator

Contact discharge current waveform

per IEC61000-4-2



● Package Information

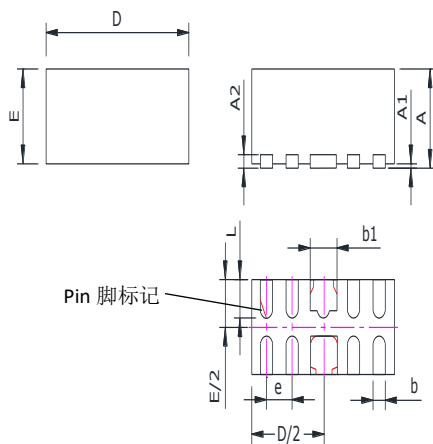
Ordering Information

Device	Package	Qty per Reel	Reel Size
SSCE5V011N7	DFN2510-10L	3000	7 Inch

Mechanical Data

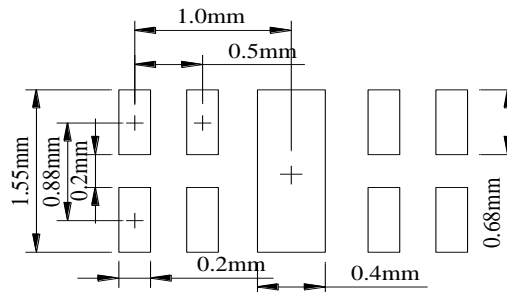
Case: DFN2510-10L

Case Material: Molded Plastic. UL Flammability



DIM	Millimeters	
	Min	Max
A	0.45	0.65
A1	0.05REF	
A2	0.15REF	
b	0.15	0.25
b1	0.30	0.50
D	2.424	2.576
E	0.924	1.076
e	0.50REF	
L	0.30	0.45

Recommended Pad outline





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