SSCE3V311N7

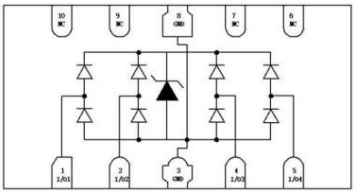
Ultra Low Capacitance Array for ESD Protection

Description

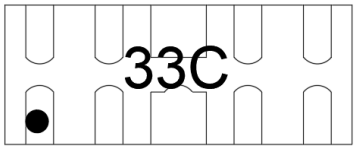
The SSCE3V311N7 provides a typical line to line capacitance of 0.3pF between I/O pins and low insertion loss up to 3.0GHz providing greater signal integrity making it ideally suited for HDMI applications, such as Digital TVs, DVD players, Computing, set-top boxes and MDDI applications in mobile computing 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

- 50W peak pulse power (t_P = 8/20μs)
- DFN2510-10L Package
- Working voltage: 3.3V
- Low clamping voltage
- Low capacitance
- RoHS compliant transient protection for high speed data
- Complies with following standards:
  -IEC61000-4-2(ESD) ±20kV(air),
  -IEC61000-4-2(ESD) ±15kV(contact)

Applications

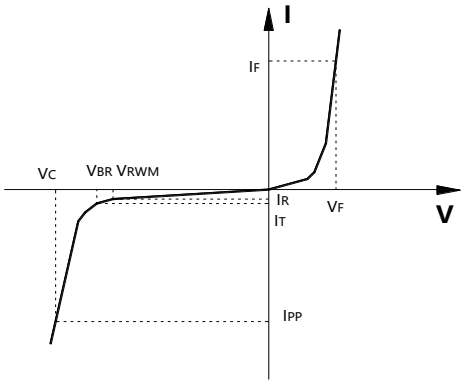
- DVI & HDMI Port Protection
- Serial and Parallel Ports
- Projection TV
- Notebooks, Desktops, Server
- USB 1.1/2.0/3.0/3.1/OTG

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

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



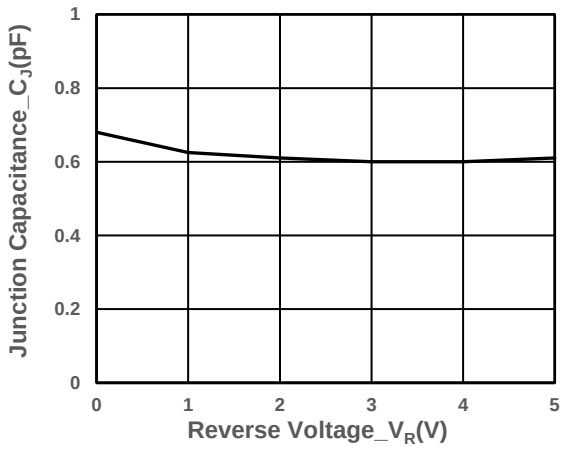
Absolute maximum rating @TA=25℃

Parameter	Symbol	Value	Units
Peak Pulse Power（8/20μs）	P_{PP}	50	W
Peak Pulse Current（8/20μs）	I_{PP}	5	A
Storage Temperature	T_{STG}	-55/+150	℃
Operating Temperature	T_J	-55/+150	℃

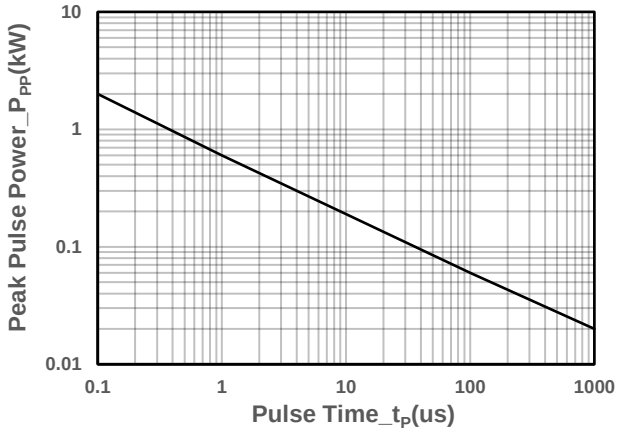
Electrical Characteristics @TA=25℃

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Peak Reverse Working Voltage	V_{RWM}	Any I/O to GND			3.3	V
Breakdown Voltage	V_{BR}	I_T = 1mA Any I/O to GND	3.8			V
Reverse Leakage Current	I_R	V_{RWM} =3.3V			0.1	μA
Clamping Voltage	V_C	I_{PP} =1A, t_P = 8/20μs			6.5	V
Clamping Voltage	V_C	I_{PP}=5A, t_P = 8/20μs			10	V
Junction Capacitance	C_J	V_R = 0V, f = 1MHz, between I/O pins		0.3	0.4	pF
		V_R = 0V, f = 1MHz, any I/O pin to GND			0.8	pF

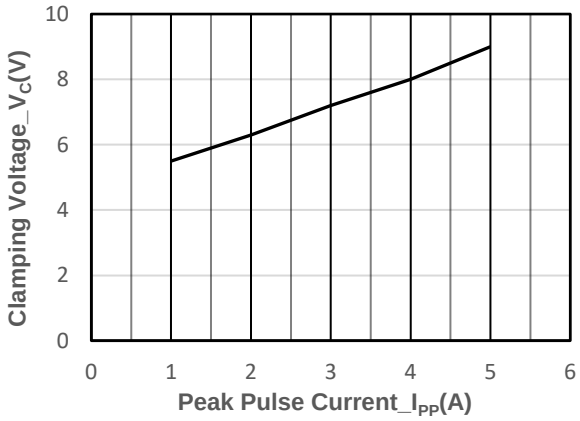
Typical Performance Characteristics



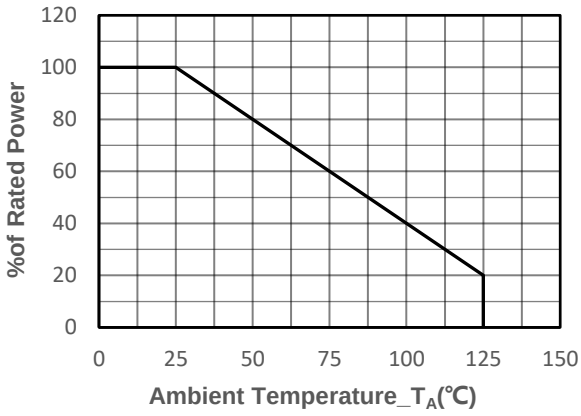
Junction Capacitance vs. Reverse Voltage



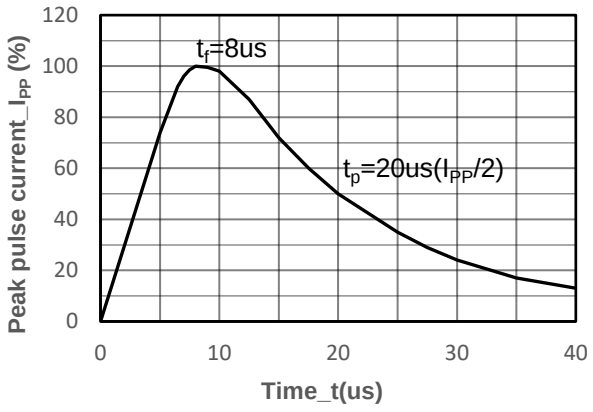
Peak Pulse Power vs. Pulse Time



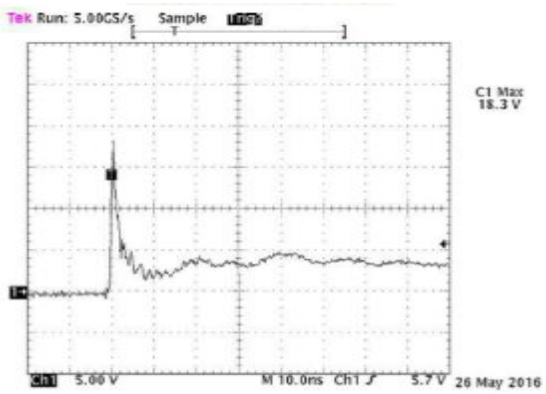
Clamping Voltage vs. Peak Pulse Current



Power derating vs. Ambient temperature



8/20us Pulse Waveform



Note: Data is taken with a 10x attenuator

Contact discharge current waveform

per IEC61000-4-2

Package Information

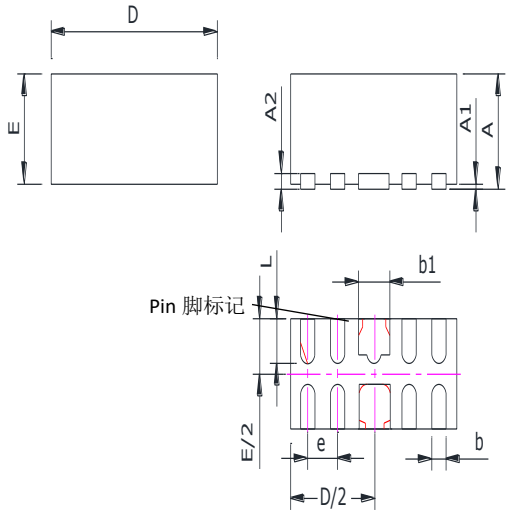
Ordering Information

Device	Package	Qty per Reel	Reel Size
SSCE3V311N7	DFN2510-10L	3000	7 Inch

Mechanical Data

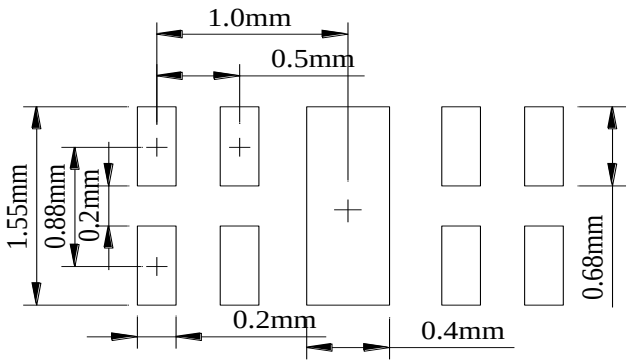
Case:DFN2510-10L

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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