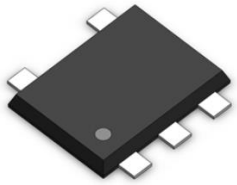
SSCE5V011S5

4-Line Ultra Low Capacitance Array for ESD Protection

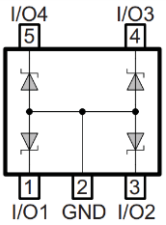
Description

The SSCE5V011S5 is a low capacitance TVS array, 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 high-speed data lines. The SSCE5V011S5 has low capacitance with a typical value at 3.5pF, and complies with the IEC 61000-4-2 (ESD) standard with ±15kV air and ±8kV contact discharge. It is assembled into a 5-pin lead-free SOT-553 package. The combination of small size, low capacitance and high level of ESD protection makes it ideal for cellular, notebooks, desktops, and other portable application.

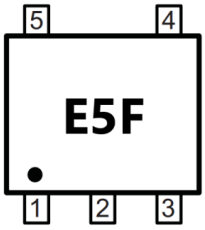
PIN configuration



SOT-553



Circuit diagram



Marking(Top view)

Feature

- ✧ 24W peak pulse power (t_P = 8/20us)
- ✧ SOT-553 Package
- ✧ Working voltage: 5V
- ✧ Low capacitance: 3.5pF typical (I/O to I/O)
- ✧ Low clamping voltage
- ✧ Low leakage current
- ✧ RoHS compliant
- ✧ Complies with following standards:
  - – IEC 61000-4-2 (ESD) immunity test
    - Air discharge: ±15kV
    - Contact discharge: ±8kV
  - – IEC61000-4-4 (EFT) 40A (5/50ns)

Mechanical data

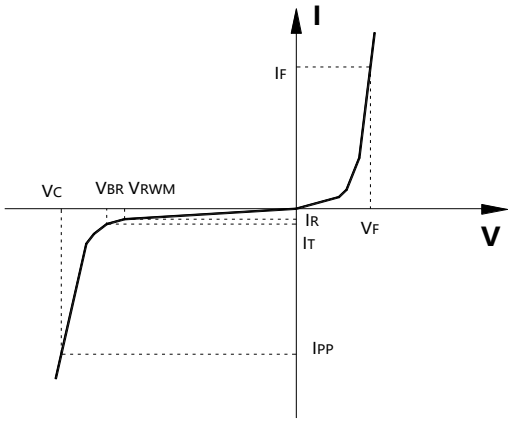
- ✧ Lead finish:100% matte Sn (Tin)
- ✧ Mounting position: Any
- ✧ Qualified max reflow temperature:260℃
- ✧ Device meets MSL 1 requirements
- ✧ Pure tin plating: 7 ~ 17 um

Applications

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

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



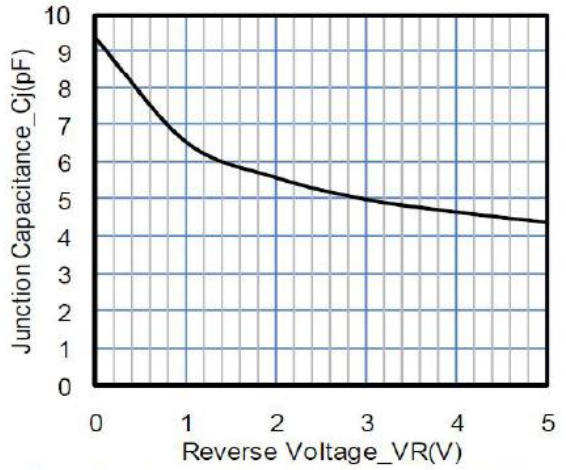
Absolute maximum rating @TA=25℃

Parameter	Symbol	Value	Unit
Peak Pulse Power（8/20us）	P_{PP}	24	W
Peak Pulse Current（8/20us）	I_{PP}	2	A
ESD Rating per IEC61000-4-2： Contact Air	V_{ESD}	8 15	KV
Storage Temperature	T_{STG}	-55/+150	℃
Operating Temperature	T_J	-55/+125	℃

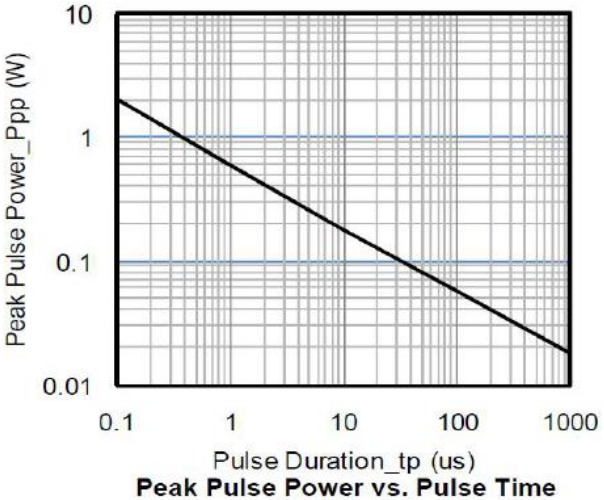
Electrical Characteristics @TA=25℃

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Peak Reverse Working Voltage	V_{RWM}				5	V
Breakdown Voltage	V_{BR}	I_T = 1mA	6			V
Reverse Leakage Current	I_R	V_{RWM} =5V			0.1	uA
Clamping Voltage	V_C	I_{PP} = 1A, t_P = 8/20us			10.5	V
Clamping Voltage	V_C	I_{PP}=2A, t_P = 8/20us			12	V
Junction Capacitance	C_J	V_R = 0V, f = 1MHz,I/O to I/O		3.5		pF
Junction Capacitance	C_J	V_R = 0V, f = 1MHz,I/O to GND		8		pF

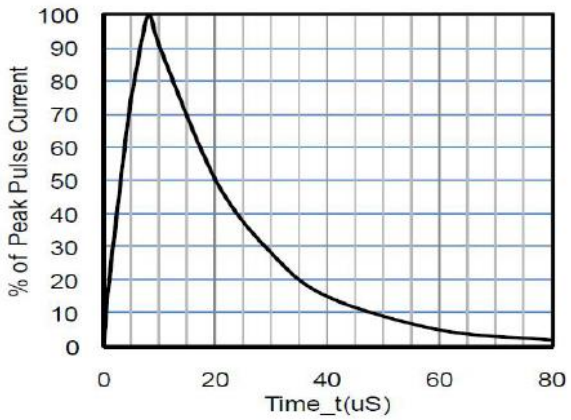
- **Typical Performance Characteristics**



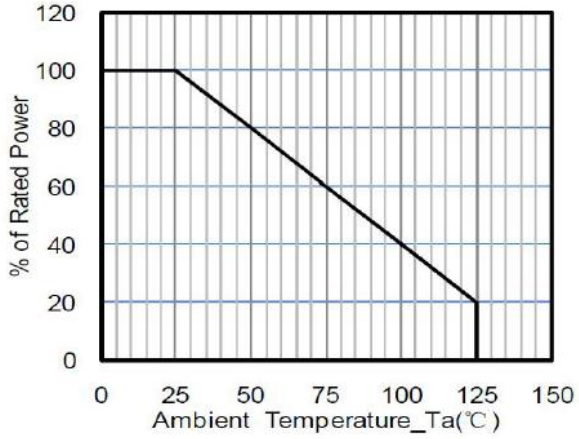
Junction Capacitance vs. Reverse Voltage



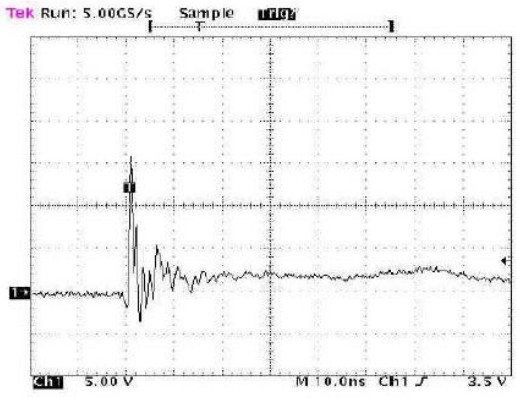
Peak Pulse Power vs. Pulse Time



8 X 20uS Pulse Waveform



Power Derating Curve



ESD Clamping Voltage

8 kV Contact per IEC61000-4-2

● Package Information

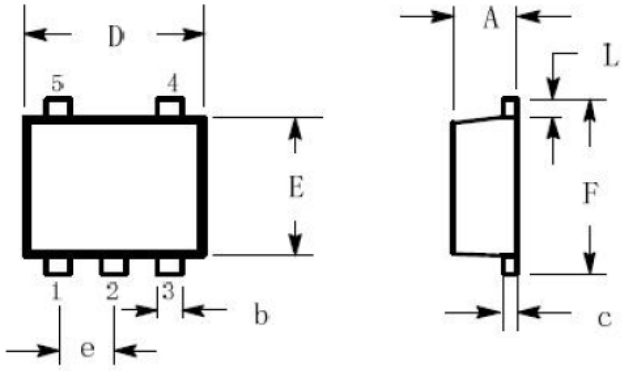
Ordering Information

Device	Package	Qty per Reel	Reel Size
SSCE5V011S5	SOT-553	3000	7 Inch

Mechanical Data

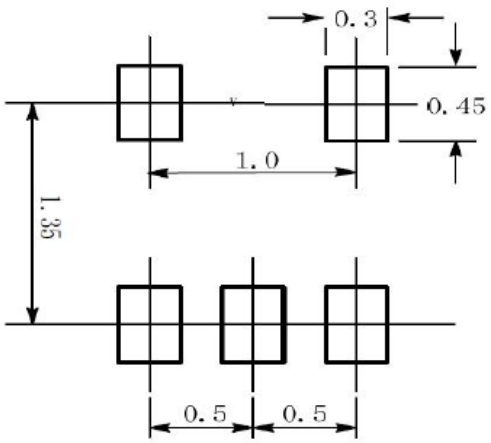
Case: SOT-553

Case Material: Molded Plastic. UL Flammability



DIM	Millimeters		
	Min.	Typ.	Max.
A	0.50	0.55	0.60
b	0.17	0.22	0.27
c	0.08	0.13	0.18
D	1.50	1.60	1.70
e		0.50BSC	
E	1.10	1.20	1.30
L	0.10	0.20	0.30
F	1.50	1.70	1.80

Recommended Pad outline (Unit: mm)



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