SSCE5V011L1

1-Line Uni-directional low Capacitance TVS Diode

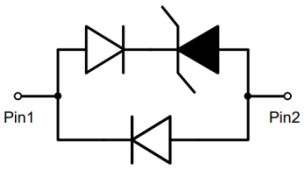
● Description

The SSCE5V011L1 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 SSCE5V011L1 complies with the IEC61000-4-2 (ESD) with ±20KV air and ±15KV contact discharge. It is assembled into an ultra-small 0.6X0.3mm lead-free DFN package. The small size and high ESD surge protection make an ideal choice to protect cell phone, digital cameras, audio players and many other portable applications.

● PIN configuration

DFN0603-2L(Bottom View)



Circuit Diagram

Marking(Top View)

● Features

- ✧ 75W peak pulse power (t_P = 8/20us)
- ✧ DFN0603-2L Package
- ✧ Working voltage:5V
- ✧ Low Leakage Current
- ✧ Low capacitance
- ✧ Low clamping voltage
- ✧ Response Time is Typically<1ns
- ✧ Complies with following standards:
  - – IEC 61000-4-2 (ESD) immunity test
    - Air discharge: ±20kV
    - Contact discharge: ±15kV
  - – IEC61000-4-5 (Surge) 5A (8/20μs)

● Mechanical Characteristics

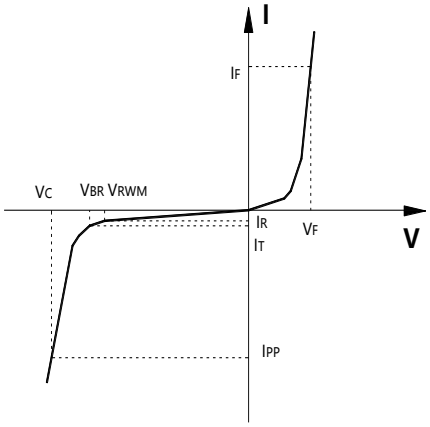
- ✧ Package: DFN0603-2L
- ✧ Case Material: “Green” Molding Compound.
- ✧ UL Flammability Classification Rating 94V-0
- ✧ Moisture Sensitivity: Level 3 per J-STD-020

● 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



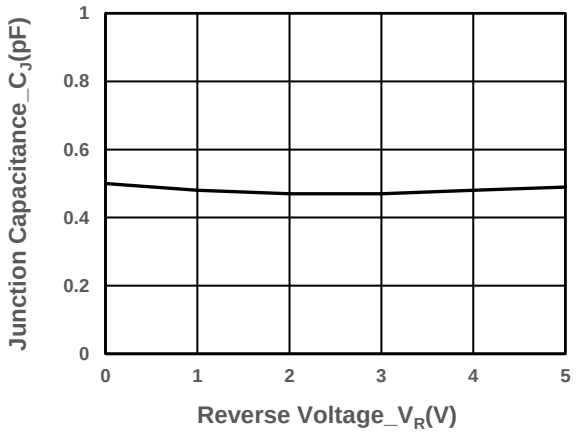
- **Absolute maximum rating @T_A=25℃**

Parameter	Symbol	Value	Units
Peak Pulse Power（8/20us）	P_{PP}	75	W
Peak Pulse Current（8/20us）	I_{PP}	5	A
ESD Rating per IEC61000-4-2: Contact Air	V_{ESD}	±15 ±20	KV
Storage Temperature	T_{STG}	-55/+150	℃
Operating Temperature	T_J	-55/+125	℃

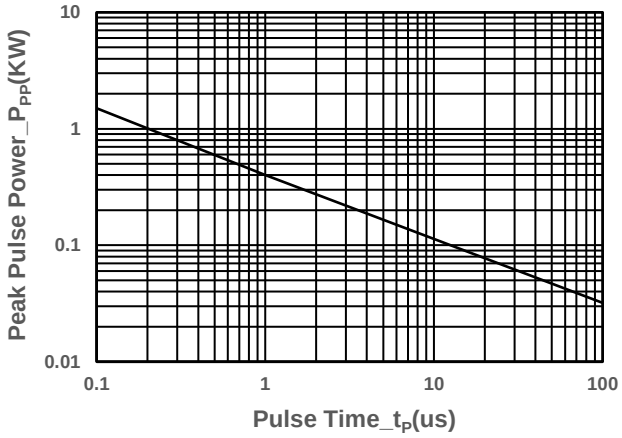
- **Electrical Characteristics @T_A=25℃**

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
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		0.03	0.2	μA
Forward Voltage	V_F	I_F=15mA			1.2	V
Clamping Voltage	V_C	I_{PP} =1A, t_P = 8/20us			10	V
Clamping Voltage	V_C	I_{PP} =5A, t_P = 8/20us			15	V
Junction Capacitance	C_J	V_R = 0V, f = 1MHz,		0.5	0.8	pF

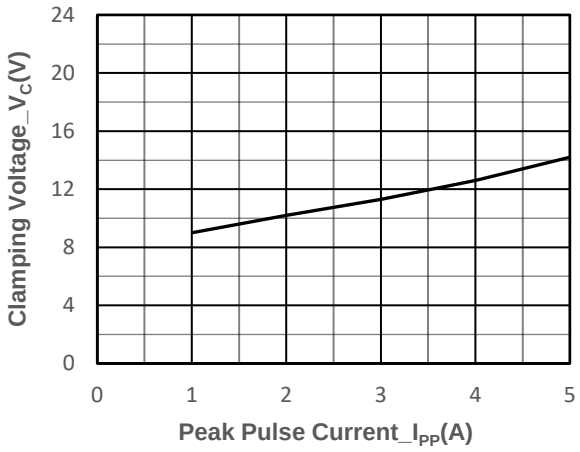
- **Typical Performance Characteristics(T_A=25℃ unless otherwise Specified)**



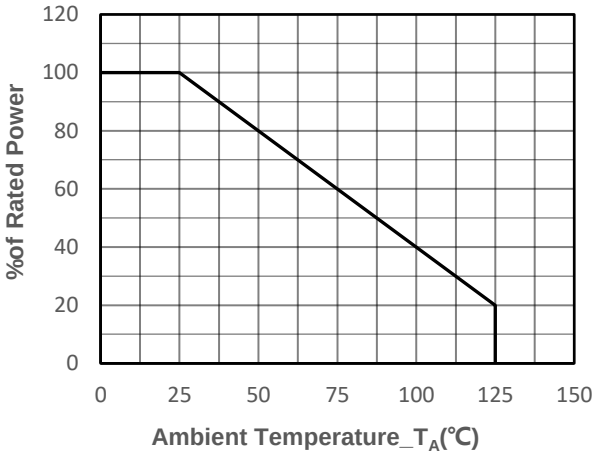
Junction Capacitance vs. Reverse Voltage



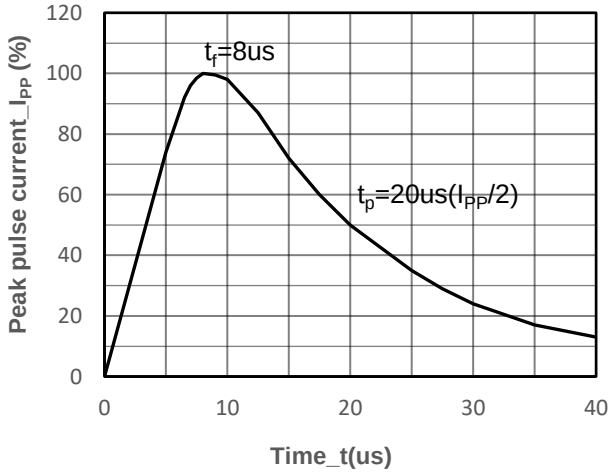
Peak Pulse Power vs. Pulse Time



Clamping Voltage vs. Peak Pulse Current



Power derating vs. Ambient temperature



8/20us Pulse Waveform

● Package Information

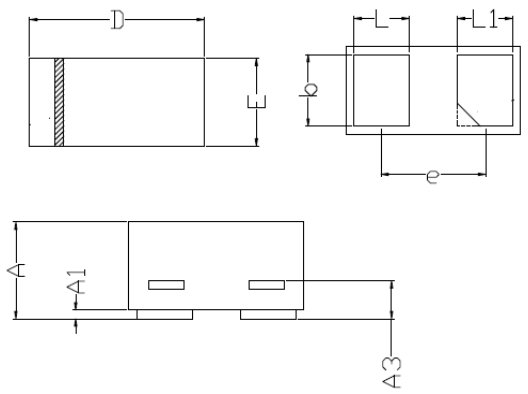
Ordering Information

Device	Package	Qty per Reel	Reel Size
SSCE5V011L1	DFN0603-2L	15000	7 Inch

Mechanical Data

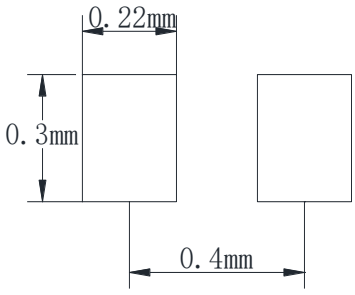
Case: DFN0603-2L

Case Material: Molded Plastic. UL Flammability



DIM	Millimeters	
	Min	Max
A	0.230	0.330
A1	0.000	0.050
A3	0.102REF	
D	0.550	0.650
E	0.250	0.350
b	0.215	0.275
L	0.12	0.23
L1	0.12	0.23
e	0.40BSC	

Suggested Land Pattem



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