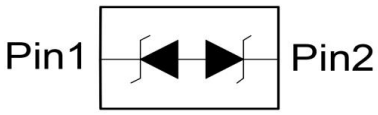
SSCE3V342L1

1-Line Bidirectional Micro Packaged TVS Diodes for ESD Protection

Description

The SSCE3V342L1 is a bi-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 SSCE3V342L1 complies with the IEC 61000-4-2 (ESD) with ±30 kV air and ±30 kV contact discharge. It is assembled into an ultra-small 0.6x0.3x0.3mm lead-free DFN package. The small size and high ESD surge protection make SSCE3V342L1 an ideal choice to protect cell phone, digital cameras, audio players and many other portable applications.

PIN configuration



Top View

Marking

Feature

- 60W peak pulse power (t_p = 8/20μs)
- DFN0603-2L Package
- Working voltage：3.3V
- Low clamping voltage
- Low capacitance
- Low leakage current
- Complies with following standards:
  - -IEC61000-4-2(ESD)
    - Air discharge：±30kV
    - Contact discharge：±30kV
  - -IEC61000-4-5 (Lightning)：6A (8/20μs)

Applications

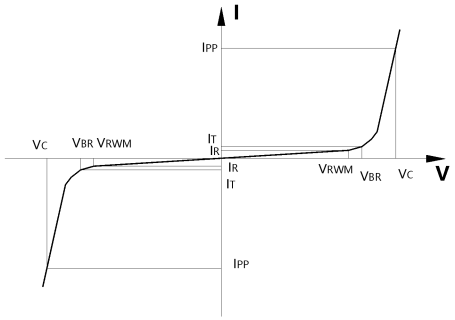
- Personal Digital Assistants
- Serial and Parallel Ports
- Projection TV
- Notebooks, Desktops, Servers
- Portable instrumentation

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



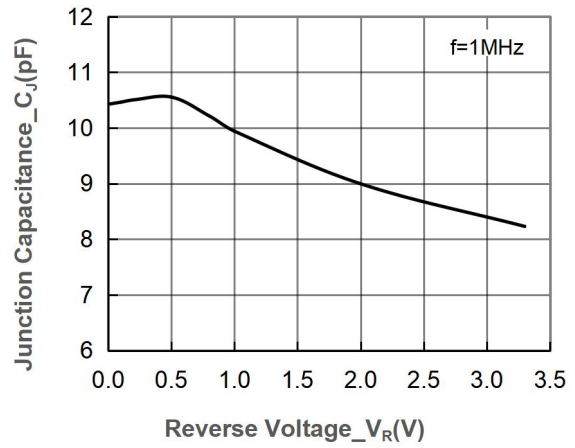
Absolute maximum rating @T_A=25℃

Parameter	Symbol	Value	Unit
Peak Pulse Power（8/20μs）	P_{PP}	60	W
Peak Pulse Current（8/20μs）	I_{PP}	6	A
ESD Rating per IEC61000-4-2： Contact Air	V_{ESD}	30 30	kV
Storage Temperature	T_{STG}	-55/+150	℃
Operating Temperature	T_J	-55/+125	℃

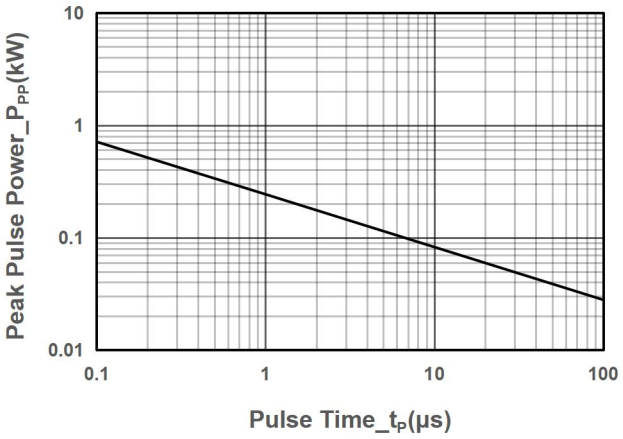
Electrical Characteristics @T_A=25℃

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Peak Reverse Working Voltage	V_{RWM}				3.3	V
Breakdown Voltage	V_{BR}	I_T = 1mA	3.8		6.2	V
Reverse Leakage Current	I_R	V_{RWM} = 3.3V			0.1	μA
Clamping Voltage	V_C	I_{PP} = 1A, t_P = 8/20μs		5.6		V
Clamping Voltage	V_C	I_{PP} = 6A, t_P = 8/20μs		7.6	10	V
Junction Capacitance	C_J	V_R = 0V, f = 1MHz		10	18	pF

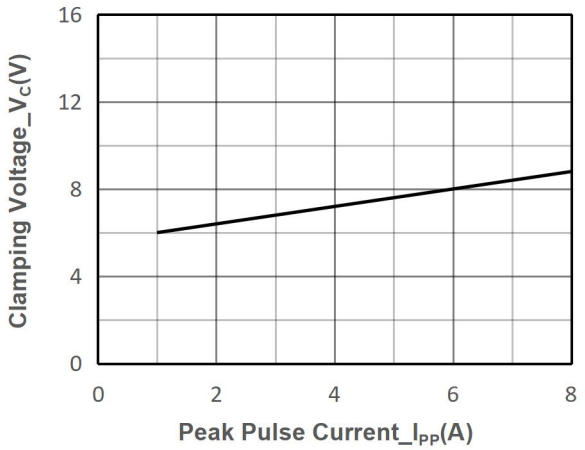
● Typical Performance Characteristics



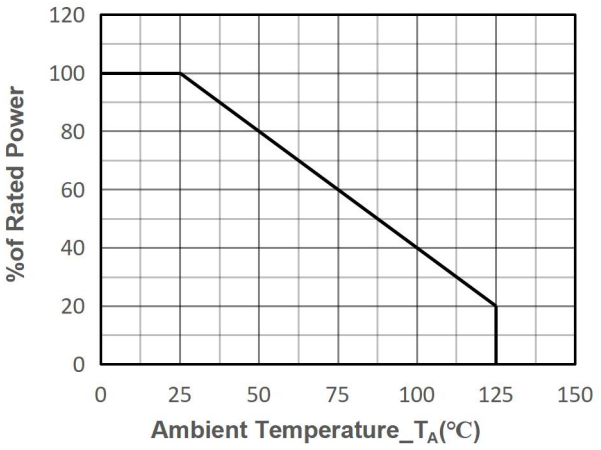
Junction Capacitance vs. Reverse Voltage



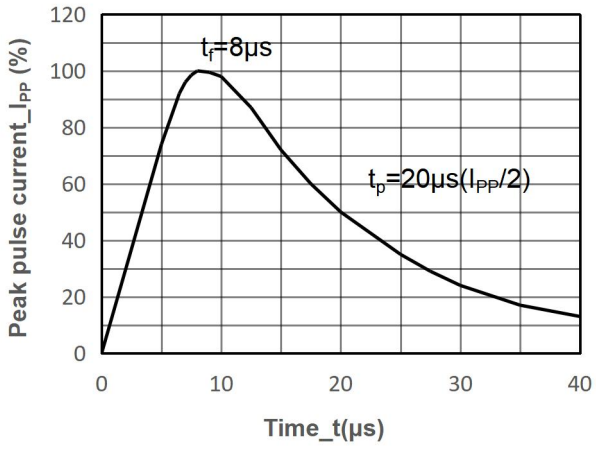
Peak Pulse Power vs. Pulse Time



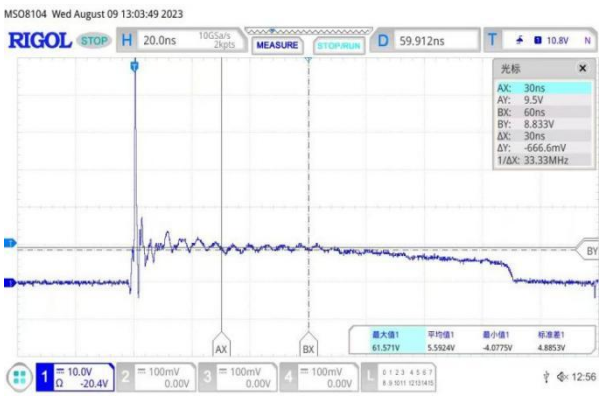
Clamping Voltage vs. Peak Pulse Current



Power derating vs. Ambient temperature



8/20μs Pulse Waveform



Note: Data is taken with a 10x attenuator
ESD Clamping Voltage

● Package Information

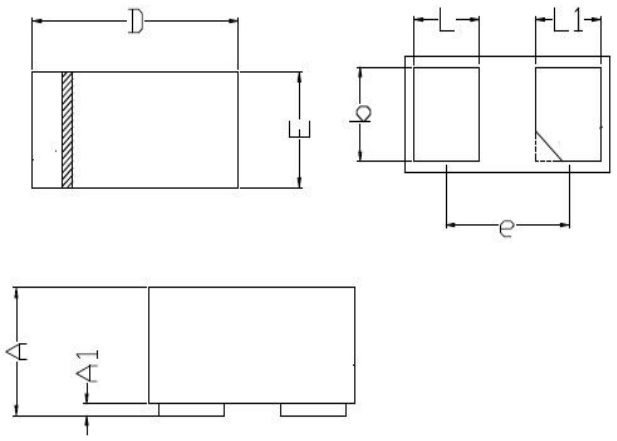
Ordering Information

Device	Package	Qty per Reel	Reel Size
SSCE3V342L1	DFN0603-2L	15000	7 Inch

Mechanical Data

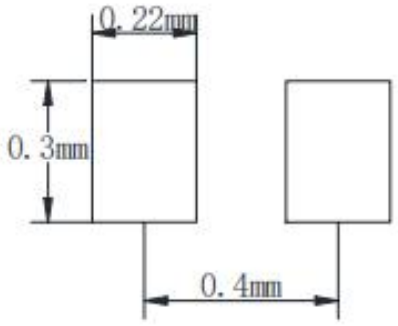
Case: DFN0603-2L

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	0.220	0.270
L	0.120	0.170
L1	0.120	0.170
e	0.40BSC	

Recommended Pad outline



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