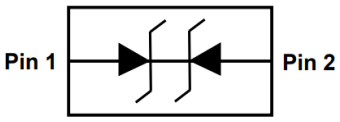
SSCE12V22L1

1-Line Ultra Low Capacitance Bi-directional TVS Diode

Description

The SSCE12V22L1 is designed with Punch-Through process TVS technology to protect voltage sensitive components from ESD. Excellent clamping capability, low leakage, and fast response time provide best in class protection on designs that are exposed to ESD. Because of its small size, it is suited for use in cellular phones, MP3 players, digital cameras and many other portable applications where board space comes at a premium.

PIN configuration



Top View

Marking

Feature

- 120W peak pulse power (t_P = 8/20μs)
- DFN0603-2L Package
- Working voltage: 12V
- Low clamping voltage
- Low capacitance：16pF typical
- Low leakage current
- RoHS compliant
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    - Air discharge: ±30kV
    - Contact discharge: ±30kV
  - IEC61000-4-5 (Lightning) 5A (8/20μs)

Applications

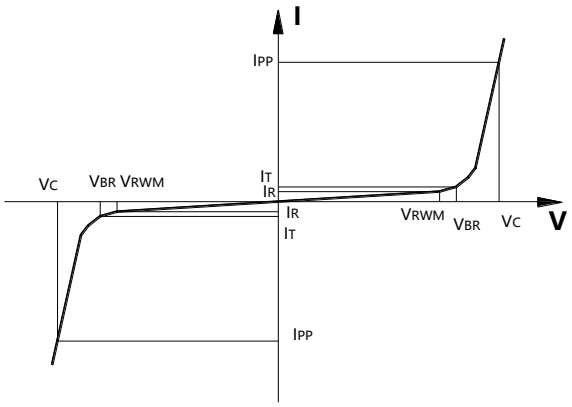
- Notebooks, Desktops, Servers
- Cell phone handsets and accessories
- Personal digital assistants (PDA's)
- Cordless phones
- Digital cameras
- Portable instrumentation
- Peripherals

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



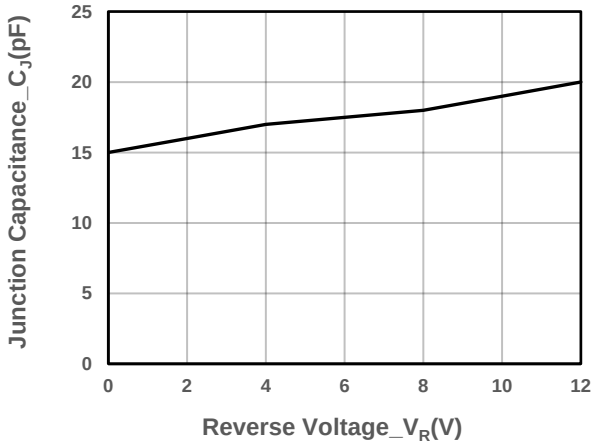
Absolute maximum rating (T_A=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak Pulse Power（8/20μs）	P_{PP}	120	W
Peak Pulse Current（8/20μs）	I_{PP}	5	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/+150	℃

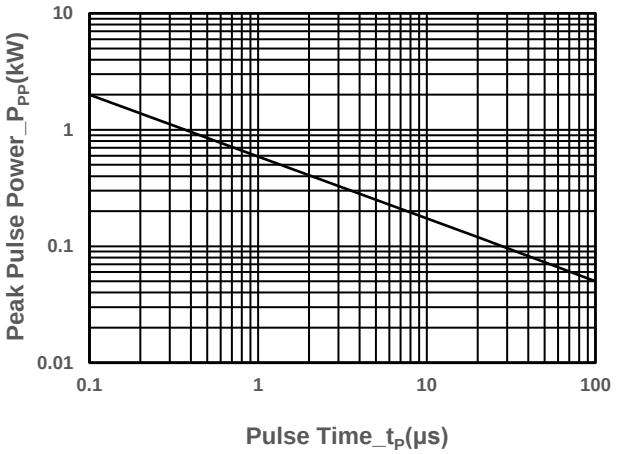
Electrical Characteristics (T_A=25℃ unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Peak Reverse Working Voltage	V_{RWM}				12	V
Breakdown Voltage	V_{BR}	I_T = 1mA	13			V
Reverse Leakage Current	I_R	V_{RWM} = 12V			0.2	μA
Clamping Voltage	V_C	I_{PP} = 1A, t_P = 8/20μs		17		V
Clamping Voltage	V_C	I_{PP} = 5A, t_P = 8/20μs			24	V
Junction Capacitance	C_J	V_R = 0V, f = 1MHz		16	20	pF

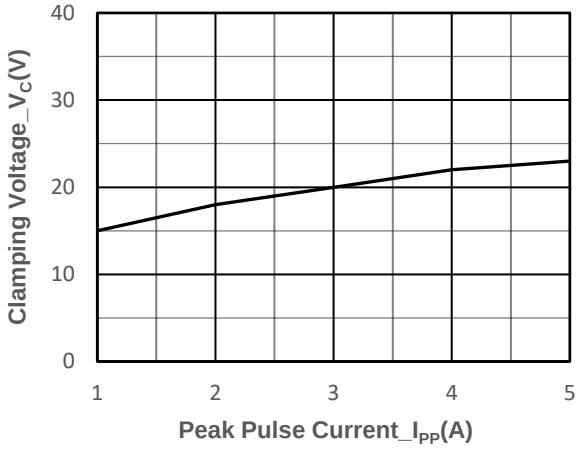
● Typical Performance Characteristics (T_A=25℃ unless otherwise noted)



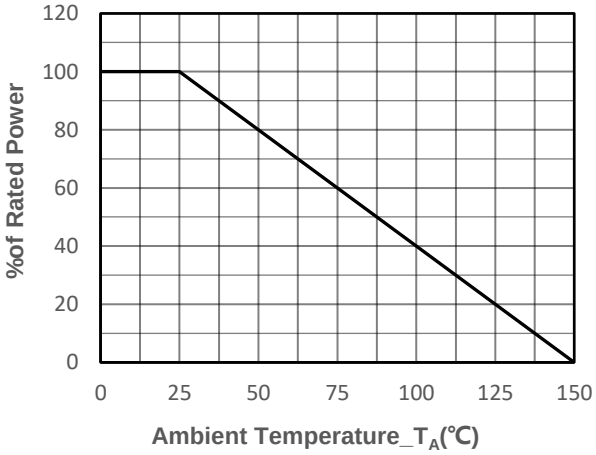
Junction Capacitance vs. Reverse Voltage



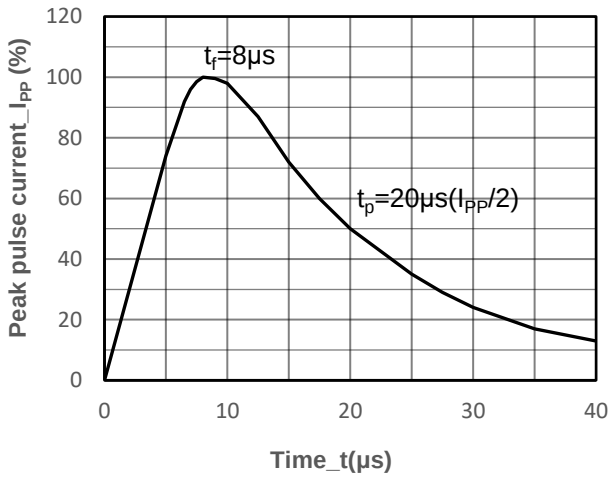
Peak Pulse Power vs. Pulse Time



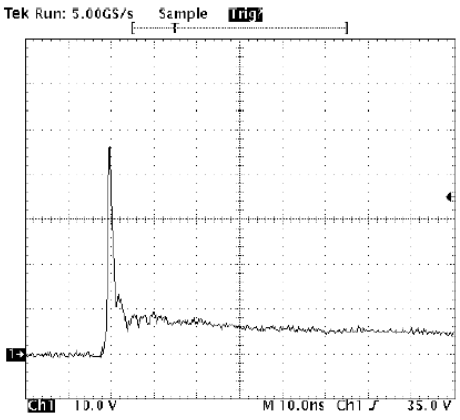
Clamping Voltage vs. Peak Pulse Current



Power derating vs. Ambient temperature



8/20μs Pulse Waveform



ESD Clamping Voltage

8 kV Contact per IEC61000-4-2

Package Information

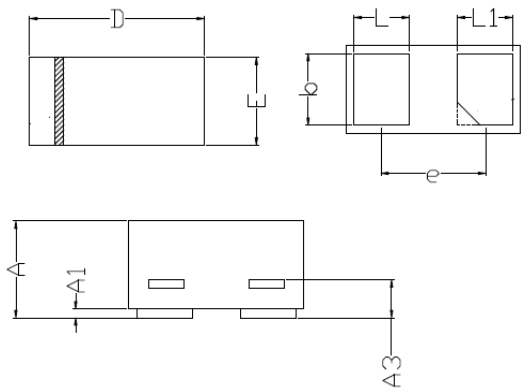
Ordering Information

Device	Package	Qty per Reel	Reel Size
SSCE12V22L1	DFN0603-2L	15000	7 Inch

Mechanical Data

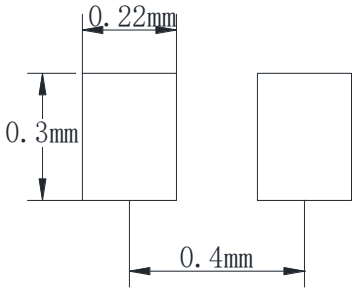
Case: DFN0603-2L

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	

Recommended Pad outline



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