



SSCT24V11L3

High Power TVS Diode

● Description

The SSCT24V11L3 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 SSCT24V11L3 complies with the IEC 61000-4-2 (ESD) with $\pm 30\text{kV}$ air and $\pm 30\text{kV}$ contact discharge. It is assembled into an ultra-small 1.6x1.0x0.5mm lead-free DFN package.

The small size and high ESD surge protection make SSCT24V11L3 an ideal choice to protect cell phone, digital cameras, audio players and many other portable applications.

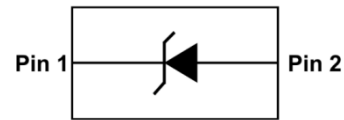
● Feature

- ✧ 2800W peak pulse power ($T_P = 8/20\mu\text{s}$)
- ✧ DFN1610-2L Package
- ✧ Working voltage: 24V
- ✧ Low clamping voltage
- ✧ Low leakage current
- ✧ RoHS compliant
- ✧ Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 30\text{kV}$
 - Contact discharge: $\pm 30\text{kV}$
 - IEC61000-4-5 (Surge) 80A (8/20 μs)

● PIN configuration



Top view



Circuit Diagram



Marking

● Applications

- ✧ Power lines
- ✧ Cellular handsets
- ✧ Tablets
- ✧ Microprocessors
- ✧ Portable Electronics
- ✧ Notebooks, Desktops, Server

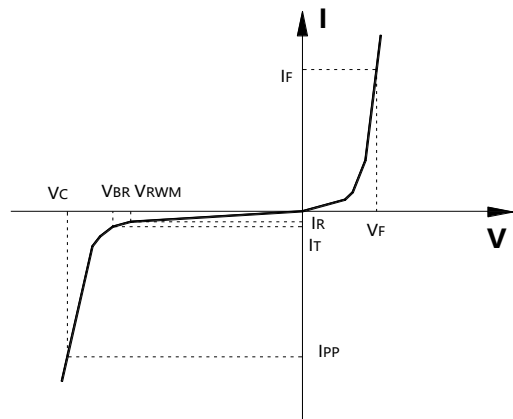
● Mechanical data

- ✧ Lead finish: 100% matte Sn(Tin)
- ✧ Mounting position: Any
- ✧ Qualified max reflow temperature: 260°C
- ✧ Device meets MSL 3 requirements
- ✧ Pure tin plating: 7 ~ 17 μm



● 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 @ $T_A=25^\circ\text{C}$

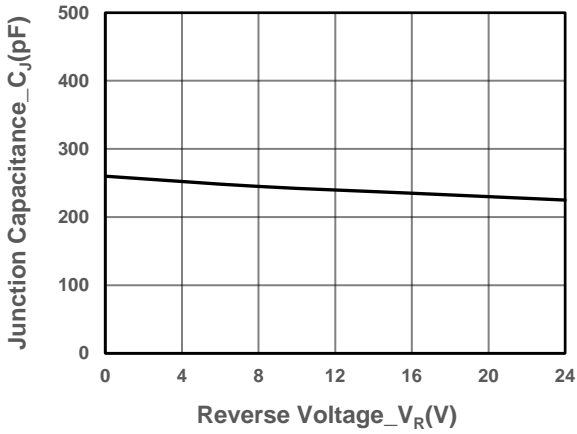
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	P_{PP}	2800	W
Peak Pulse Current (8/20 μs)	I_{PP}	80	A
ESD Rating per IEC61000-4-2:	Contact	30	kV
	Air	30	
Storage Temperature	T_{STG}	-55/+150	$^\circ\text{C}$
Operating Temperature	T_J	-55/+125	$^\circ\text{C}$

● Electrical Characteristics @ $T_A=25^\circ\text{C}$

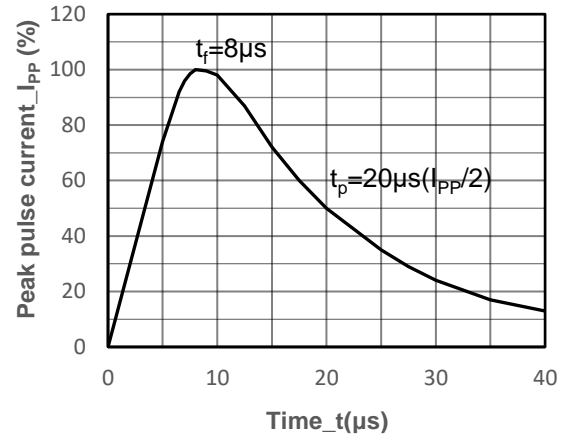
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Peak Reverse Working Voltage	V_{RWM}				24	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	26.5		32.5	V
Reverse Leakage Current	I_R	$V_{RWM} = 24\text{V}$			0.5	μA
Clamping Voltage	V_C	$I_{PP} = 1\text{A}$, $t_P = 8/20\mu\text{s}$		32		V
Clamping Voltage	V_C	$I_{PP} = 80\text{A}$, $t_P = 8/20\mu\text{s}$		35		V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$		260		pF



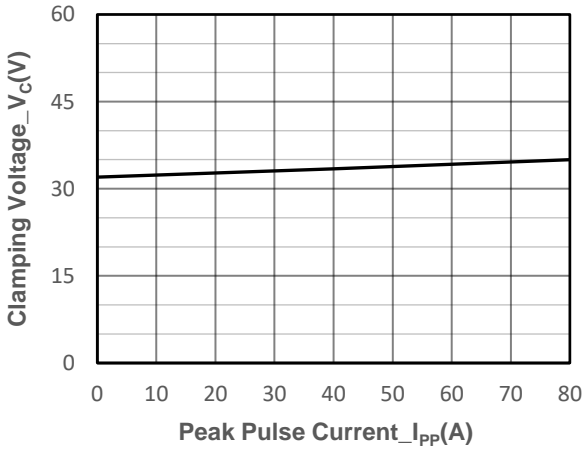
● Typical Performance Characteristics



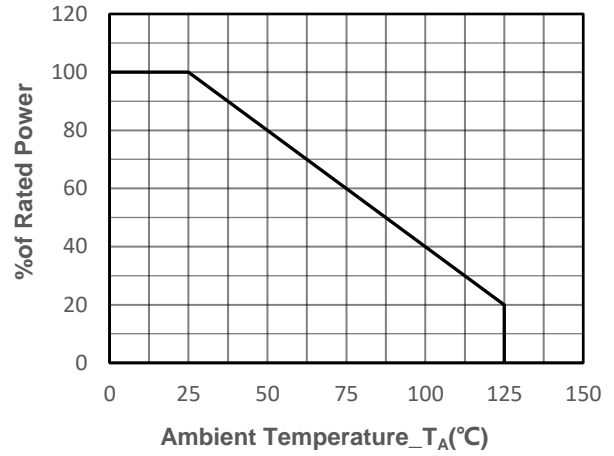
Junction Capacitance vs. Reverse Voltage



8/20 μ s Pulse Waveform



Clamping Voltage vs. Peak Pulse Current



Power derating vs. Ambient temperature



SSCT24V11L3

● Package Information

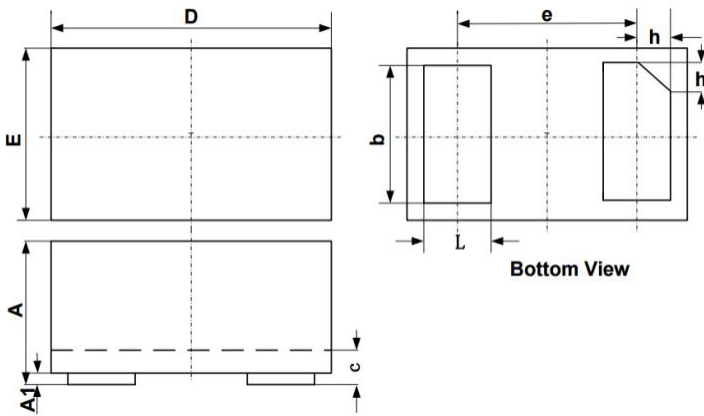
Ordering Information

Device	Package	Qty per Reel	Reel Size
SSCT24V11L3	DFN1610-2L	3000	7 Inch

Mechanical Data

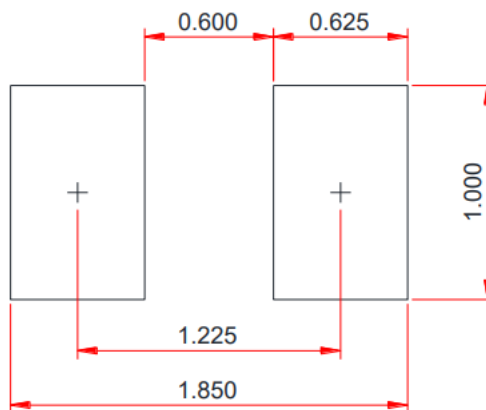
Case: DFN1610-2L

Case Material: Molded Plastic. UL Flammability



DIM	Millimeters		
	Min.	typ.	Max.
A	0.45	0.50	0.55
A1	0.00	0.02	0.05
b	0.75	0.80	0.85
c	0.10	0.15	0.20
D	1.55	1.60	1.65
e	1.10 BSC		
E	0.95	1.00	1.05
L	0.35	0.40	0.45
h	0.15	0.20	0.25

Recommended Pad outline(Unit:mm)





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