SSCT20V11L3

1-Line Uni-directional TVS Diode

Description

The SSCT20V11L3 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 SSCT20V11L3 complies with the IEC 61000-4-2 (ESD) with ±30kV air and ±30kV 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 SSCT20V11L3 an ideal choice to protect cell phone, digital cameras, audio players and many other portable applications.

Features

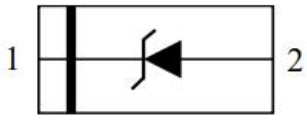
- 1500W peak pulse power (t_P = 8/20us)
- DFN1610-2L Package
- Working voltage:20V
- Response Time is Typically<1ns
- RoHS compliant
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    Air discharge: ±30kV
    Contact discharge: ±30kV
  - IEC61000-4-5 (Surge)45A (8/20us)

Applications

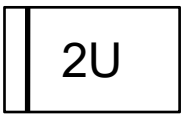
- Cellular Handsets and Accessories
- Mobile Phones
- Battery Protection
- Power Line Protection
- Vbat pin for Mobile Devices
- Hand Held Portable Applications

PIN configuration

DFN1610-2L(Bottom View)



Circuit diagram



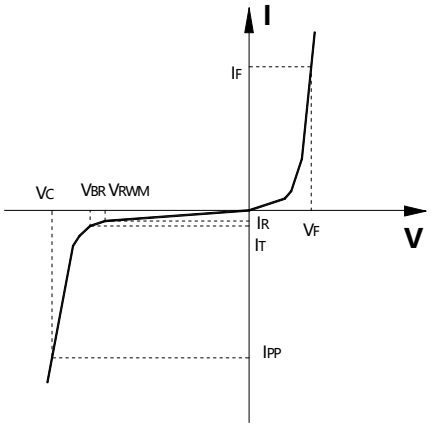
Circuit diagram

Mechanical Characteristics

- Case Material: “Green” Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020
- Terminal Connections: See Diagram Below
- Marking Information: See Below

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



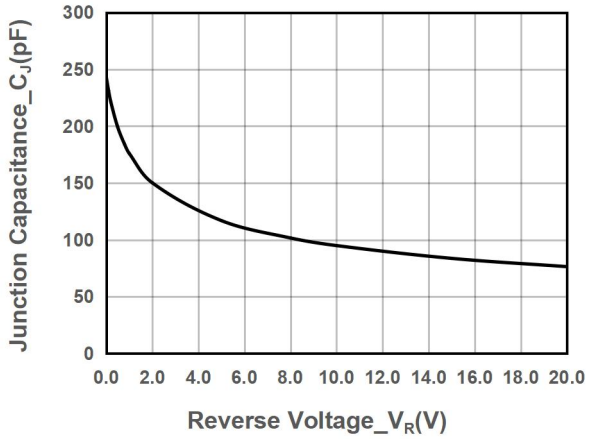
Absolute maximum rating @T_A=25℃

Parameter	Symbol	Value	Units
Peak Pulse Power（8/20us）	P_{PP}	1500	W
Peak Pulse Current（8/20us）	I_{PP}	45	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	℃

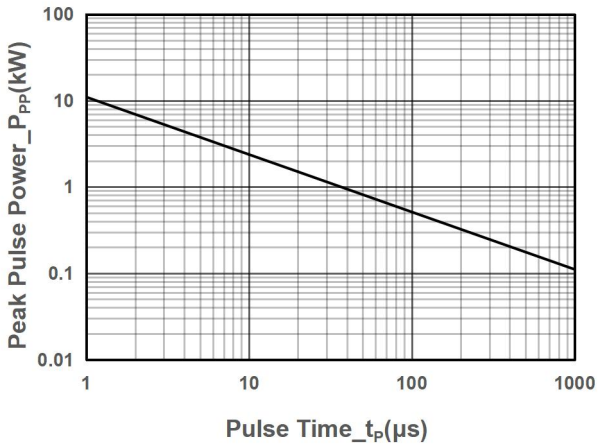
Electrical Characteristics @T_A=25℃

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Peak Reverse Working Voltage	V_{RWM}				20	V
Breakdown Voltage	V_{BR}	I_T = 1mA	21			V
Reverse Leakage Current	I_R	V_{RWM} =20V			1	μA
Clamping Voltage	V_C	I_{PP} =20A, t_P = 8/20μs			26	V
Clamping Voltage	V_C	I_{PP} =45A, t_P = 8/20μs		30	35	V
Junction Capacitance	C_J	V_R = 0V, f = 1MHz,		250		pF

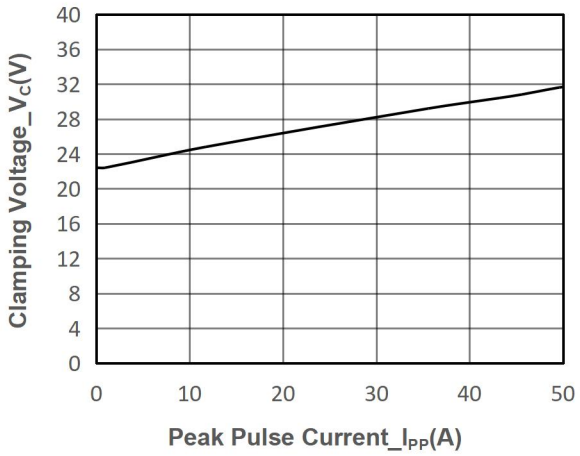
- **Typical Performance Characteristics (T_A=25℃ unless otherwise Specified)**



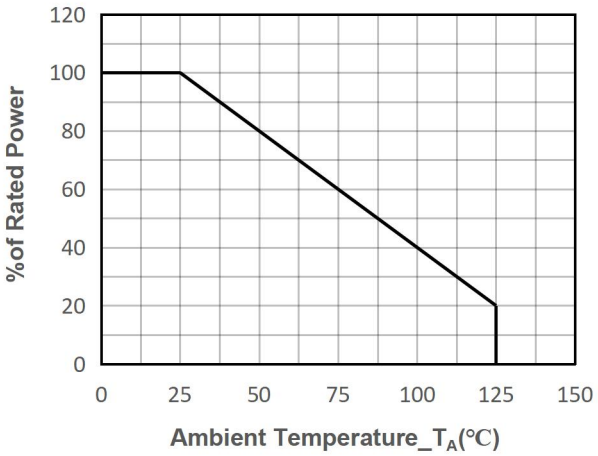
Junction Capacitance vs. Reverse Voltage



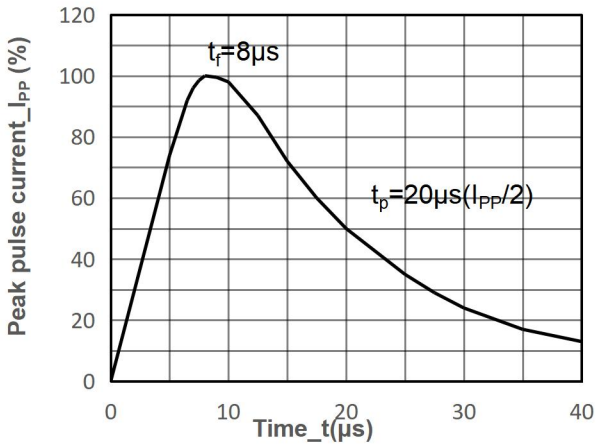
Peak Pulse Power vs. Pulse Time



Clamping Voltage vs. Peak Pulse Current



Power derating vs. Ambient temperature



8/20μs Pulse Waveform

- **Package Information**

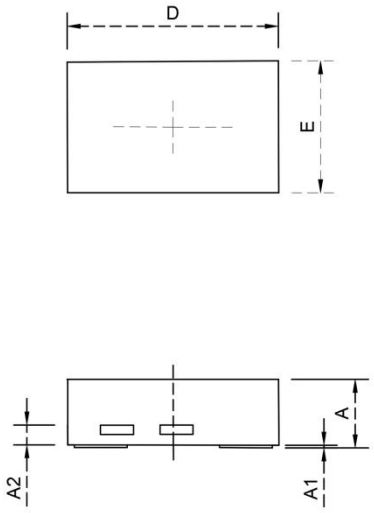
Ordering Information

Device	Package	Qty per Reel	Reel Size
SSCT20V11L3	DFN1610-2L	3000	7 Inch

Mechanical Data

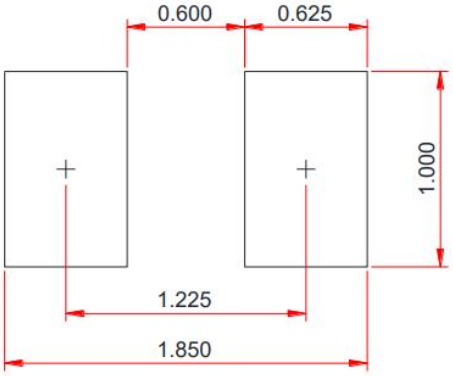
Case: DFN1610-2L

Case Material: Molded Plastic. UL Flammability



DIM	Millimeters		
	Min.	typ.	Max.
A	0.45	0.50	0.55
A1	-	0.02	0.05
A2	0.152Ref		
b	0.75	0.80	0.85
L	0.35	0.40	0.45
D	1.55	1.60	1.65
E	0.95	1.00	1.05
e	1.10BSC		
h	0.20Ref		

Recommended Pad outline (Unit: mm)



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