



## SSCT15V21L3

1-Line Uni-directional TVS Diode

### ● Description

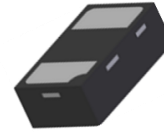
The SSCT15V21L3 is an uni-directional TVS diode, utilizing leading monolithic silicon technology to provide fast response time and low ESD clamping voltage, making this device an ideal solution for protecting voltage sensitive data and power line.

The SSCT15V21L3 complies with the IEC61000-4-2 (ESD) with  $\pm 30\text{kV}$  air and  $\pm 30\text{kV}$  contact discharge. It is assembled into an ultra-small 1.6X1.0mm 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.

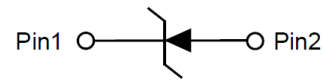
### ● Features

- ◇ Peak Pulse Current (8/20 $\mu\text{s}$ )
- ◇ DFN1610-2L Package
- ◇ Working voltage:15V
- ◇ Low Leakage Current
- ◇ Junction capacitance (Max value):400pF
- ◇ Low clamping voltage
- ◇ Complies with following standards:
  - IEC61000-4-2(ESD)  $\pm 30\text{kV}$ (contact),  $\pm 30\text{kV}$ (air)
  - IEC61000-4-5(Lightning) 100A(8/20 $\mu\text{s}$ )

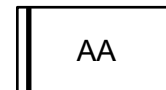
### ● PIN configuration



**DFN1610-2L (Bottom View)**



**Circuit Diagram**



**Marking (Top View)**

### ● Applications

- ◇ Cellular Handsets and Accessories
- ◇ Display Ports
- ◇ MDDI Ports
- ◇ USB Ports
- ◇ Digital Visual Interface (DVI)
- ◇ PCI Express and Serial SATA Ports

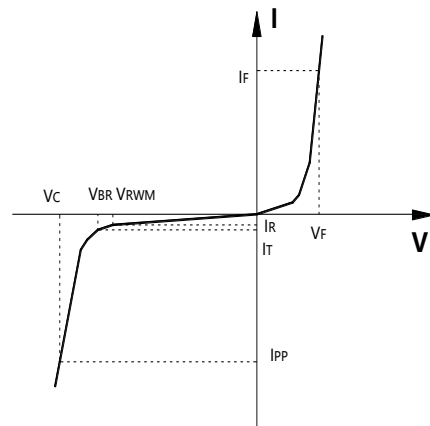
### ● Mechanical Characteristics

- ◇ Package: DFN1610-2L
- ◇ Lead Finish: Matte Tin
- ◇ Case Material: "Green" Molding Compound.
- ◇ UL Flammability Classification Rating 94V-0
- ◇ Moisture Sensitivity: Level 3 per J-STD-020



## ● 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 @ $T_A=25^\circ\text{C}$

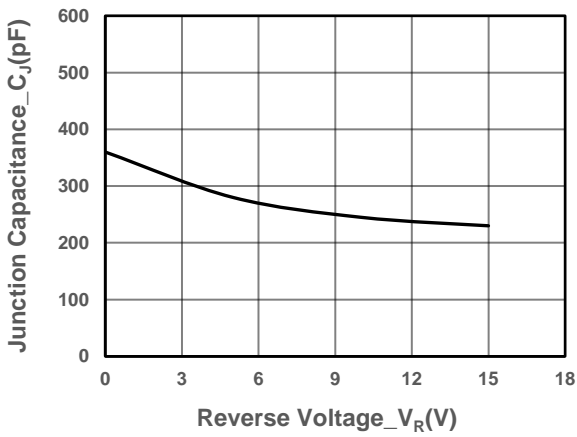
Parameter	Symbol	Value	Units
Peak Pulse Power (8/20 $\mu\text{s}$ )	$P_{PP}$	3600	W
Peak Pulse Current (8/20 $\mu\text{s}$ )	$I_{PP}$	100	A
ESD Rating per IEC61000-4-2:	Contact	$\pm 30$	kV
	Air	$\pm 30$	
Storage Temperature	$T_{STG}$	-55/+150	$^\circ\text{C}$
Operating Temperature	$T_J$	-55/+125	$^\circ\text{C}$

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

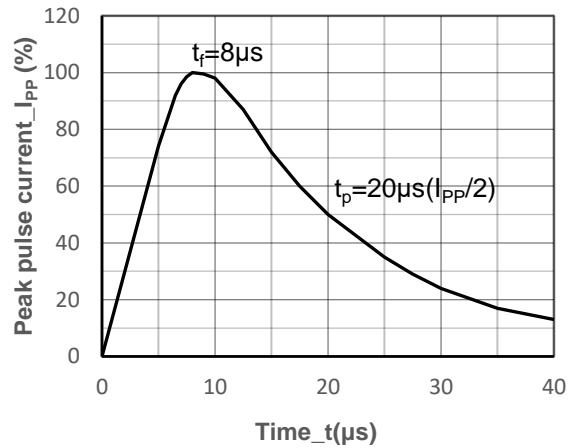
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Peak Reverse Working Voltage	$V_{RWM}$				15	V
Breakdown Voltage	$V_{BR}$	$I_T = 1\text{mA}$	16.7		19.3	V
Reverse Leakage Current	$I_R$	$V_{RWM} = 15\text{V}$			1	$\mu\text{A}$
Clamping Voltage	$V_C$	$I_{PP} = 1\text{A}$ , $t_P = 8/20\mu\text{s}$			26	V
Clamping Voltage	$V_C$	$I_{PP} = 100\text{A}$ , $t_P = 8/20\mu\text{s}$			36	V
Junction Capacitance	$C_J$	$V_R = 0\text{V}$ , $f = 1\text{MHz}$			400	pF



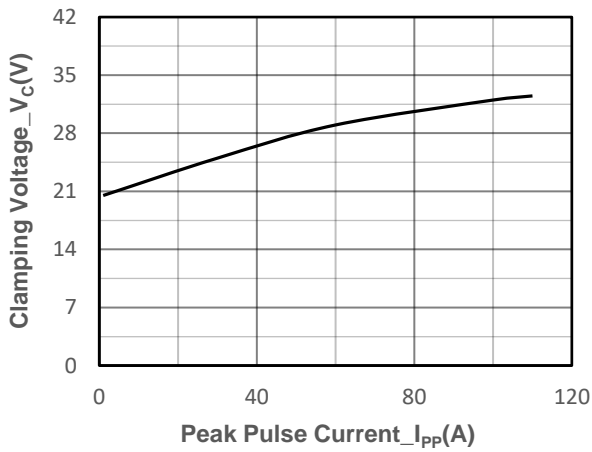
● Typical Performance Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise Specified)



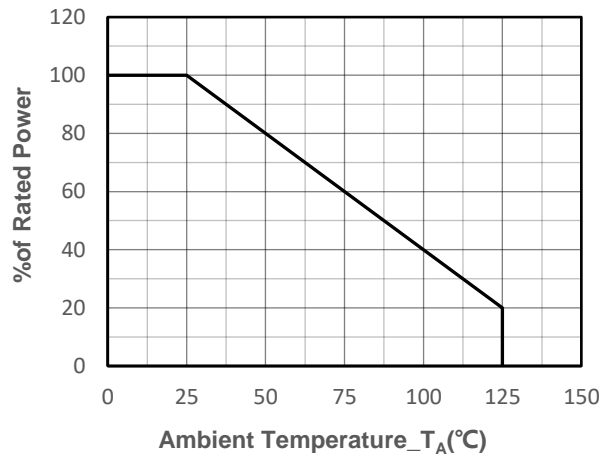
Junction Capacitance vs. Reverse Voltage



8/20  $\mu\text{s}$  Pulse Waveform



Clamping Voltage vs. Peak Pulse Current



Power derating vs. Ambient temperature



## ● Package Information

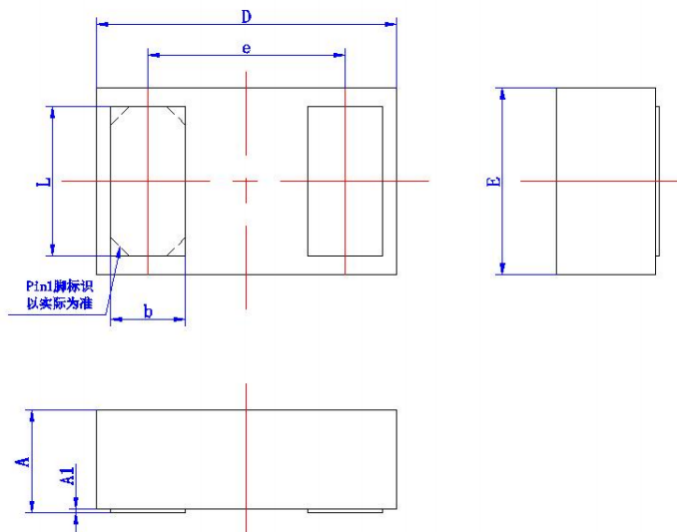
### Ordering Information

Device	Package	Qty per Reel	Reel Size
SSCT15V21L3	DFN1610-2L	3000	7 Inch

### Mechanical Data

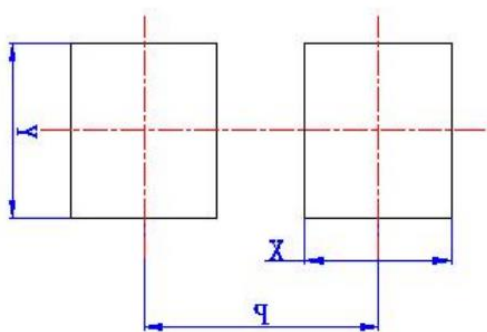
Case: DFN1610-2L

Case Material: Molded Plastic. UL Flammability



DIM	Millimeters	
	Min	Max
A	0.50	0.65
A1	0.00	0.05
D	1.5	1.7
E	0.9	1.1
b	0.35	0.45
e	1.05TYP	
L	0.75	0.95

### Suggested Land Pattern (Unit:mm)



DIM	Millimeters
	Type
X	0.62
Y	1.0
P	1.2



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