



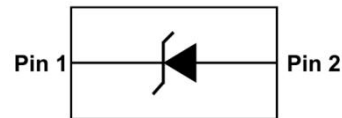
SSCT7V021L3

1-Line Uni-directional TVS Diode

● Description

The SSCT7V021L3 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 SSCT7V021L3 complies with the IEC 61000-4-2 (ESD) with $\pm 30\text{kV}$ air and $\pm 30\text{kV}$ contact discharge.

● PIN configuration



Top view

● Features

- ✧ Protects one I/O or Power Line
- ✧ DFN1610-2L Package
- ✧ Working voltage:7V
- ✧ Low Leakage Current
- ✧ Small Body Outline Dimensions
- ✧ Response Time is Typically $<1\text{ns}$
- ✧ Complies with following standards:
 - IEC61000-4-2(ESD) $\pm 30\text{Kv}$ (contact),
 $\pm 30\text{kV}$ (air)
 - IEC61000-4-4(EFT) 40A(5/50ns)
 - IEC61000-4-5(Lightning) 40A(8/20 μs)



Marking

● Mechanical Characteristics

- ✧ Package: DFN1610-2L
- ✧ 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

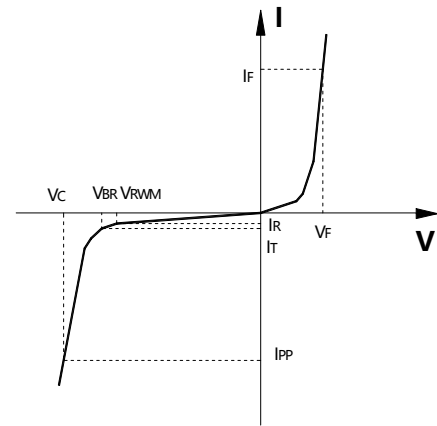
● Applications

- ✧ Cellular Handsets and Accessories
- ✧ Personal Digital Assistants
- ✧ Notebooks and Handhelds
- ✧ Portable Instrumentation
- ✧ Digital Cameras
- ✧ Peripherals
- ✧ Audio Players
- ✧ Keypads, Side Keys, LCD Displays



● 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 @ $T_A=25^\circ\text{C}$

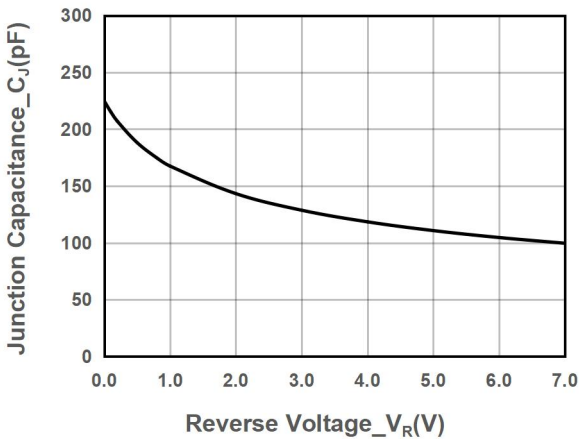
Parameter	Symbol	Value	Units
Peak Pulse Power (8/20 μs)	P_{PP}	640	W
Peak Pulse Current (8/20 μs)	I_{PP}	40	A
ESD Rating per IEC61000-4-2:			
Contact	V_{ESD}	± 30	kV
Air		± 30	
Storage Temperature	T_{STG}	-55/+150	$^\circ\text{C}$
Operating Temperature	T_J	-55/+125	$^\circ\text{C}$

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

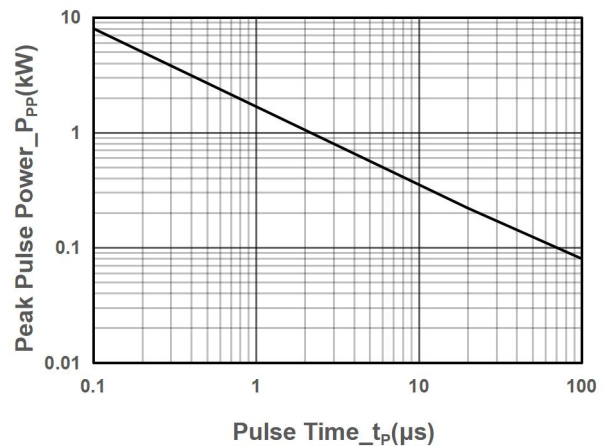
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Peak Reverse Working Voltage	V_{RWM}				7	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	7.5			V
Reverse Leakage Current	I_R	$V_{RWM} = 7\text{V}$			0.2	μA
Forward Voltage	V_F	$I_F = 10\text{mA}$			1.2	V
Clamping Voltage	V_C	$I_{PP} = 4\text{A}$, $t_P = 8/20\mu\text{s}$		9		V
Clamping Voltage	V_C	$I_{PP} = 40\text{A}$, $t_P = 8/20\mu\text{s}$		13	16	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$,		230	300	pF



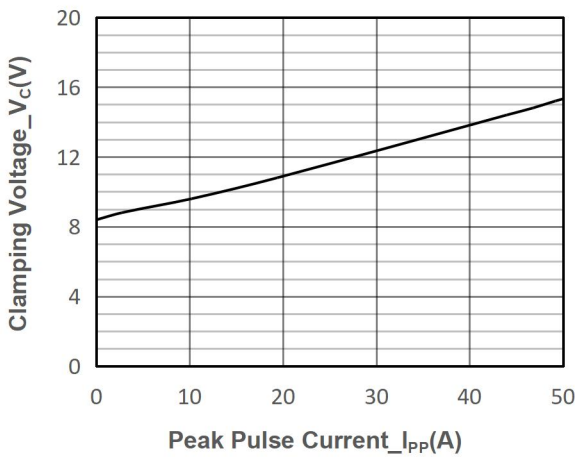
● **Typical Performance Characteristics (TA=25°C unless otherwise Specified)**



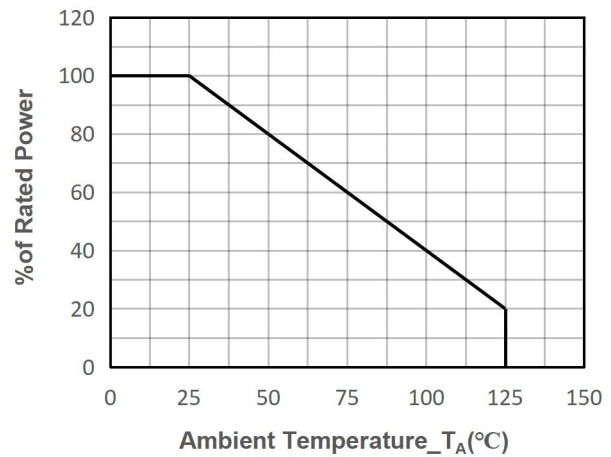
Junction Capacitance vs. Reverse Voltage



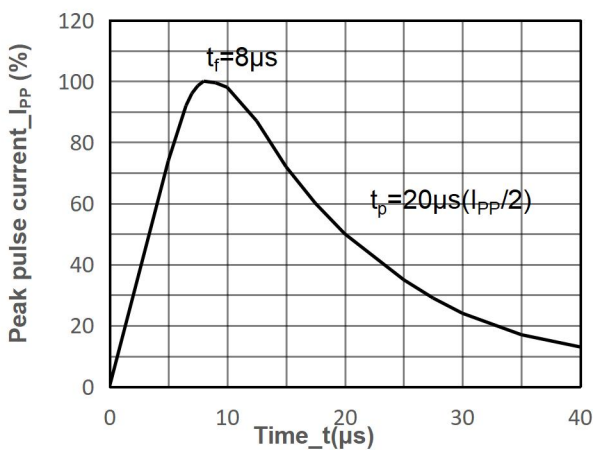
Peak Pulse Power vs. Pulse Time



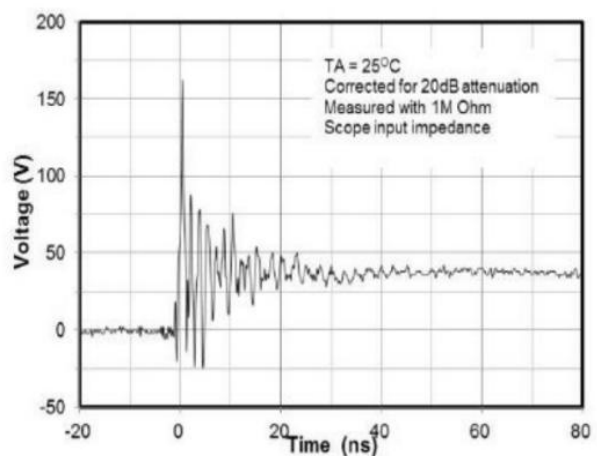
Clamping Voltage vs. Peak Pulse Current



Power derating vs. Ambient temperature



8/20 μ s Pulse Waveform



**Note: Data is taken with a 10x attenuator
ESD Clamping Voltage 8kV contact per
IEC61000-4-2**



- **Package Information**

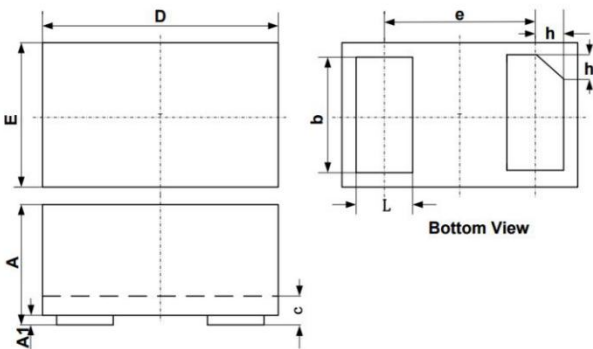
Ordering Information

Device	Package	Qty per Reel	Reel Size
SSCT7V021L3	DFN1610-2L	3000	7 Inch

Mechanical Data

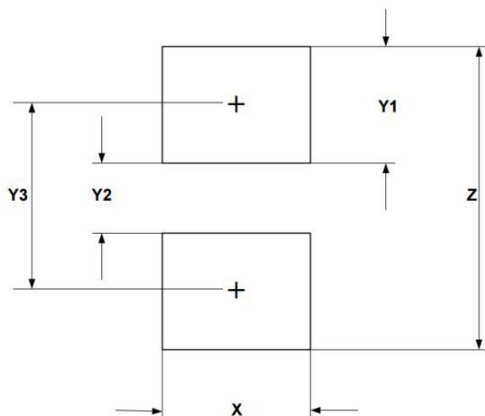
Case: DFN1610-2L

CaseMaterial: Molded Plastic. UL Flammability



Dim	DIMENSIONS					
	Millimeters			INCHES		
	MIN	NOM	MAX	Min	Max	MAX
A	0.45	0.50	0.55	0.018	0.020	0.022
A1	0.00	0.02	0.05	0.000	0.001	0.002
b	0.75	0.80	0.85	0.030	0.032	0.034
c	0.10	0.15	0.20	0.004	0.006	0.007
D	1.55	1.60	1.65	0.062	0.064	0.066
e	1.10 BSC			0.044 BSC		
E	0.95	1.00	1.05	0.038	0.040	0.042
L	0.35	0.40	0.45	0.014	0.016	0.018
h	0.15	0.20	0.25	0.006	0.008	0.010

Suggested Land Pattern



Dim	DIMENSIONS	
	MILLMETERS	INCHES
X	1.00	0.04
Y1	0.62	0.025
Y2	0.60	0.024
Y3	1.22	0.049
Z	1.85	0.074



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