SSCT5V021N1

1-Line Uni-directional TVS Diode

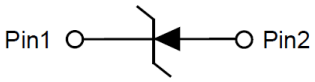
Description

The SSCT5V021N1 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 SSCT5V021N1 complies with the IEC61000-4-2 (ESD) with ±30kV air and ±30kV contact discharge. It is assembled into an ultra-small 1.0X0.6mm 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.

PIN configuration

DFN1006-2L(Bottom View)



Circuit Diagram

Marking(Top View)

Features

- 600W peak pulse power (t_P = 8/20μs)
- DFN1006-2L Package
- Working voltage:5V
- Low Leakage Current
- Low capacitance
- Low clamping voltage
- Response Time is Typically<1ns
- Complies with following standards:
  -IEC61000-4-2(ESD) ±30kV(contact),
  ±30kV(air)
  -IEC61000-4-5(Lightning) 40A(8/20μs)

Mechanical Characteristics

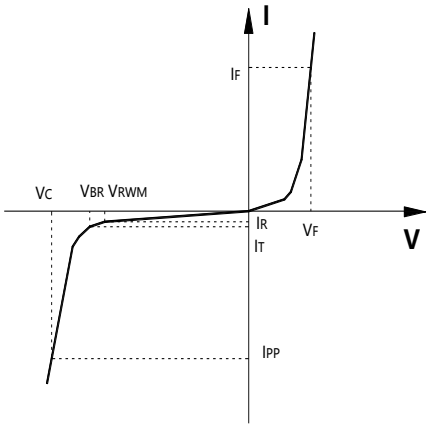
- Package: DFN1006-2L
- Case Material: “Green” Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020

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



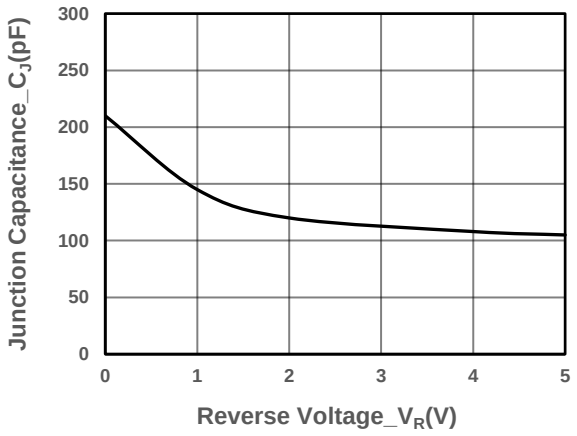
Absolute maximum rating @T_A=25℃

Parameter	Symbol	Value	Units
Peak Pulse Power（8/20μs）	P_{PP}	600	W
Peak Pulse Current（8/20μs）	I_{PP}	40	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	℃

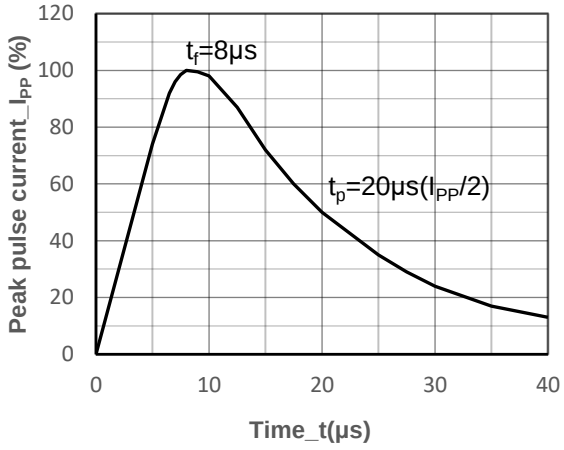
Electrical Characteristics @T_A=25℃

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Peak Reverse Working Voltage	V_{RWM}				5	V
Breakdown Voltage	V_{BR}	I_T = 1mA	6			V
Reverse Leakage Current	I_R	V_{RWM} =5V			0.5	μA
Clamping Voltage	V_C	I_{PP} =1A, t_P = 8/20μs			10	V
Clamping Voltage	V_C	I_{PP} =40A, t_P = 8/20μs			15	V
Junction Capacitance	C_J	V_R = 0V, f = 1MHz,			300	pF

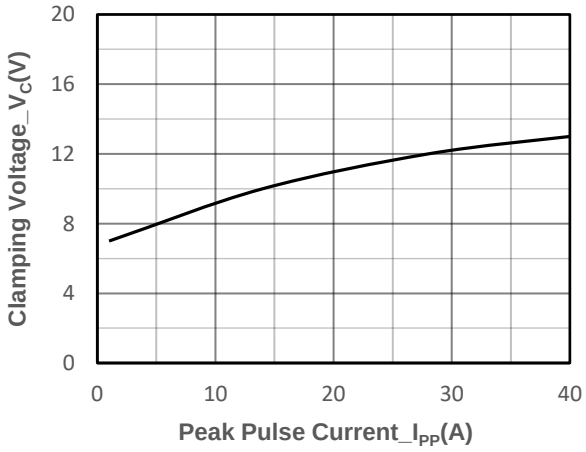
- **Typical Performance Characteristics(T_A=25℃ unless otherwise Specified)**



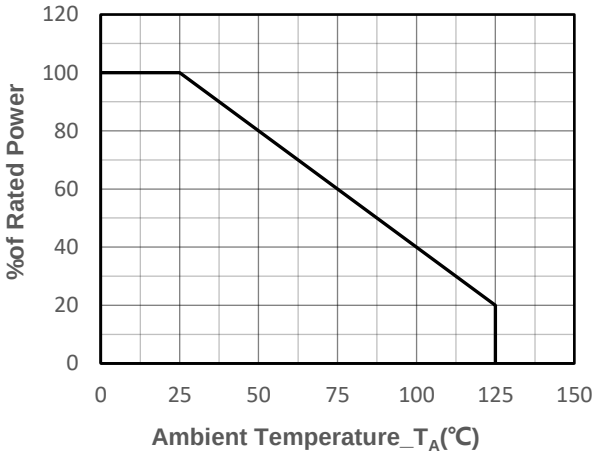
Junction Capacitance vs. Reverse Voltage



8/20μs Pulse Waveform



Clamping Voltage vs. Peak Pulse Current



Power derating vs. Ambient temperature

Package Information

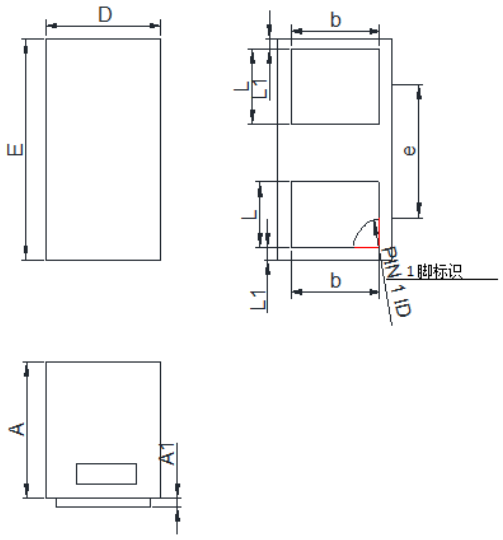
Ordering Information

Device	Package	Qty per Reel	Reel Size
SSCT5V021N1	DFN1006-2L	10000	7 Inch

Mechanical Data

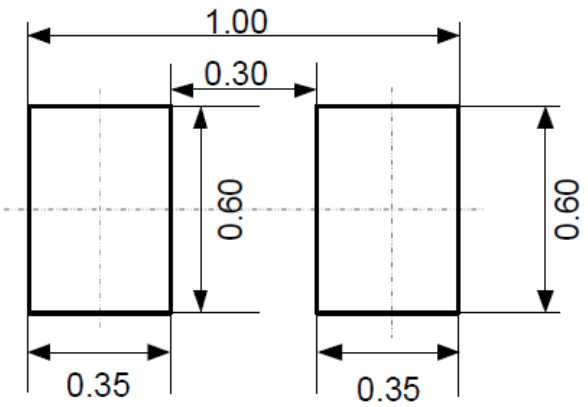
Case: DFN1006-2L

Case Material: Molded Plastic. UL Flammability



DIM	Millimeters	
	Min	Max
A	0.45	0.55
A1	0.00	0.05
D	0.55	0.65
E	0.95	1.05
b	0.45	0.60
e	0.65TYP	
L	0.2	0.3
L1	0.05REF	

Suggested Land Pattern (Unit: mm)



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