SSCE5V0A2N1

2-Lines Bi-directional TVS Diode

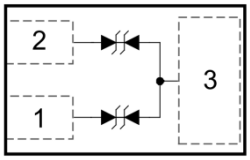
Description

The SSCE5V0A2N1 is a 2 line of 5V bi-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.

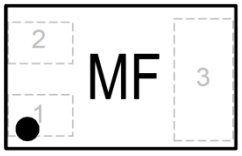
The small size and high ESD surge protection make SSCE5V0A2N1 an ideal choice to protect cellphone, digital cameras, audio players and many other portable applications.

PIN configuration

DFN1006-3L(Bottom View)



Circuit Diagram



Marking(Top View)

Features

- ✧ 72W peak pulse power (t_p= 8/20μs)
- ✧ Ultra low capacitance
- ✧ Working voltage: 5V
- ✧ Low clamping voltage
- ✧ 3-pin leadless package
- ✧ Low Leakage Current
- ✧ Complies with following standards:
  - IEC61000-4-2(ESD) ±20kV(contact), ±25kV(air)
  - IEC61000-4-4(EFT) 40A(5/50ns)
  - IEC61000-4-5(Lightning) 6A(8/20μs)

Applications

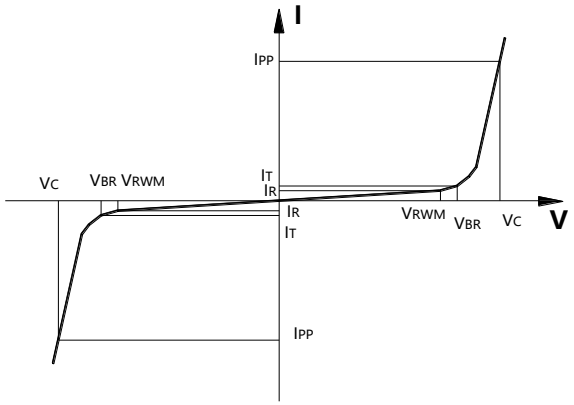
- ✧ Cellular Handsets and Accessories
- ✧ Personal Digital Assistants
- ✧ Notebooks and Handhelds
- ✧ Portable Instrumentation
- ✧ Digital Cameras
- ✧ Audio Players, Keypads, Side Keys
- ✧ USB 2.0
- ✧ LCD Displays

Mechanical Characteristics

- ✧ Package: DFN1006-3L (1.0×0.6×0.5mm)
- ✧ Lead Finish: NiPdAu
- ✧ 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_{PPP}	Peak Pulse Power
C	Junction Capacitance



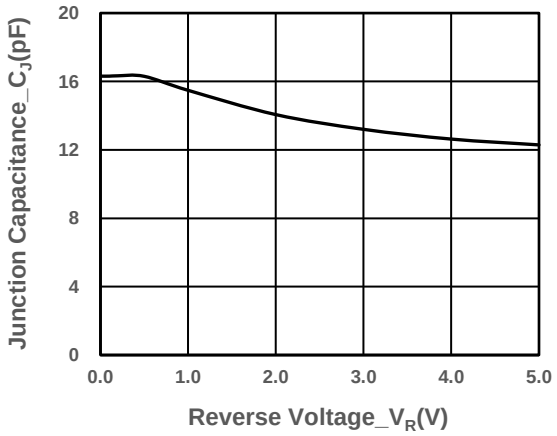
Absolute maximum rating @T_A=25℃

Parameter		Symbol	Value	Units
Peak Pulse Power（8/20μs）		P_{PP}	75	W
Peak Pulse Current（8/20μs）		I_{PP}	6	A
ESD Rating per IEC61000-4-2	Contact Air	V_{ESD}	±20 ±25	kV
Storage Temperature		T_{STG}	-55/+150	℃
Operating Temperature		T_J	-55/+125	℃

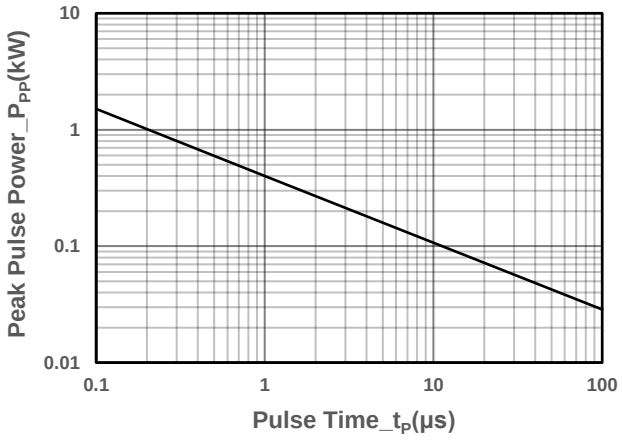
Electrical Characteristics @T_A=25℃

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
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			0.05	μA
Clamping Voltage	V_C	I_{PP} = 1A, t_p = 8/20μs		8		V
Clamping Voltage	V_C	I_{PP} = 6A, t_p = 8/20μs			12	V
Junction Capacitance	C_J	V_R = 0V, f = 1MHz, Pin 1 or Pin 2 to Pin 3		15		pF

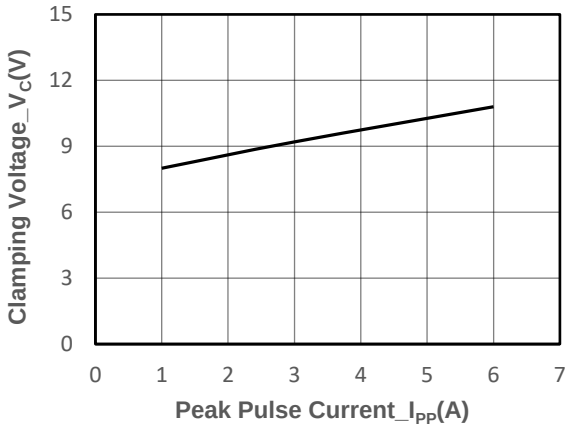
- **Typical Performance Characteristics(T_A=25℃ unless otherwise Specified)**



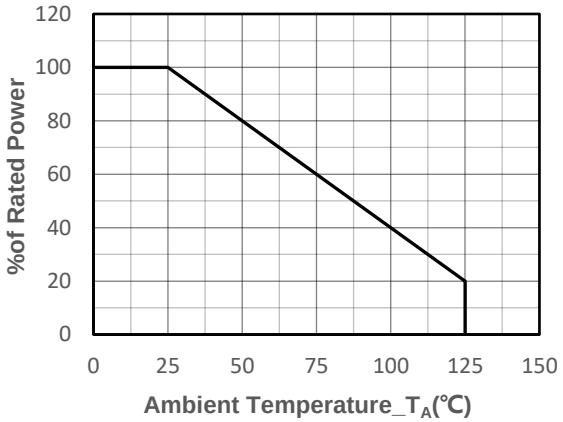
Junction Capacitance vs. Reverse Voltage



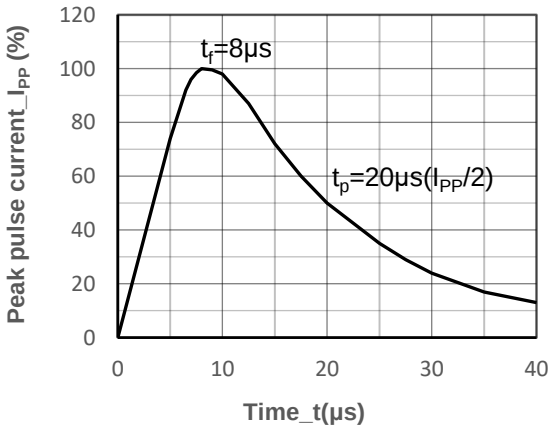
Peak Pulse Power vs. Pulse Time



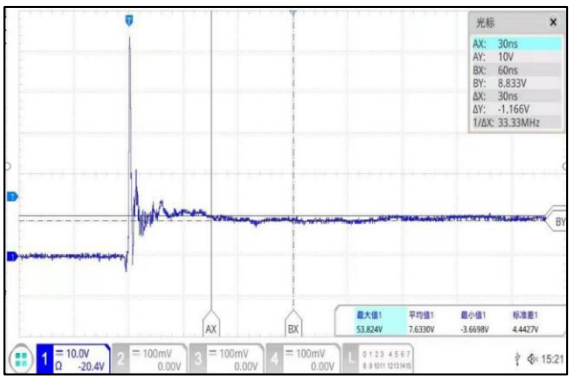
Clamping Voltage vs. Peak Pulse Current



Power derating vs. Ambient temperature



8/20μs Pulse Waveform



Note: Data is taken with a 10x attenuator ESD Clamping Voltage 8KV Contact per IEC61000-4-2

Package Information

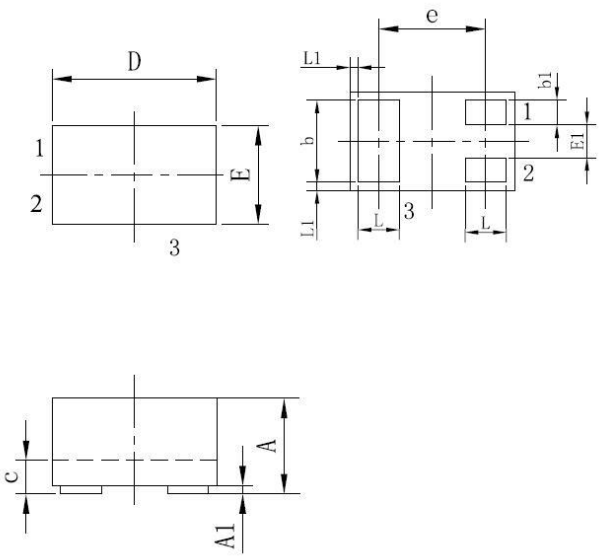
Ordering Information

Device	Package	Qty per Reel	Reel Size
SSCE5V0A2N1	DFN1006-3L	10000	7 Inch

Mechanical Data

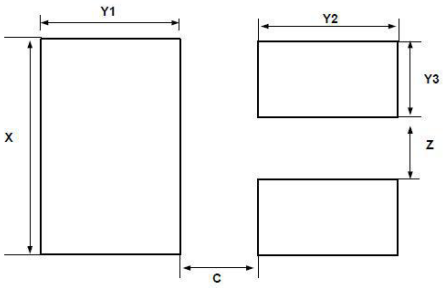
Case: DFN1006-3L

Case Material: Molded Plastic. UL Flammability



DIM	Millimeters		
	Min	Nom	Max
A	0.45	0.50	0.55
A1	0.00	0.02	0.05
b	0.45	0.50	0.55
b1	0.10	0.15	0.20
c	0.12	0.15	0.18
D	0.95	1.00	1.05
e	0.65 BSC		
E	0.55	0.60	0.65
E1	0.15	0.20	0.25
L	0.20	0.25	0.30
L1	0.05REF		

Recommended Pad outline



DIM	Millimeters
C	0.25
X	0.65
Y1	0.50
Y2	0.50
Y3	0.25
Z	0.20

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