SSCE5V072N1

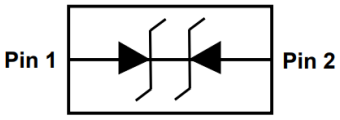
1-Line Bi-directional TVS Diodes

Description

The SSCE5V072N1 is a 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 SSCE5V072N1 complies with the IEC 61000-4-2 (ESD) with ±30 kV air and ±30 kV contact discharge. It is assembled into an ultra-small 1.0x0.6x0.5mm lead-free DFN package. The small size and high ESD surge protection make SSCE5V072N1 an ideal choice to protect cell phone, digital cameras, audio players and many other portable applications.

PIN configuration

DFN1006-2L (Bottom View)



Circuit Diagram

Feature

- Working voltage: 5V
- Low clamping voltage
- Small Body Outine Dimensions
- Low leakage current
- Response Time is Typically<1ns
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    Air discharge: ±30kV
    Contact discharge: ±30kV
  - IEC61000-4-5 (Lightning) 18A (8/20μs)

Marking

Mechanical data

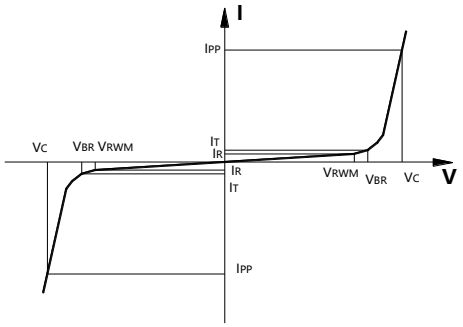
- Package: DFN1006-2L(1.0×0.6×0.5mm)
- Lead finish: 100% matte Sn (Tin)
- Device meets MSL 3 requirements
- Case Material: “Green” Molding Compound
- RoHS Compliant

Applications

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals
- Audio Players
- Keypads, Side Keys, USB, 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	Junction Capacitance



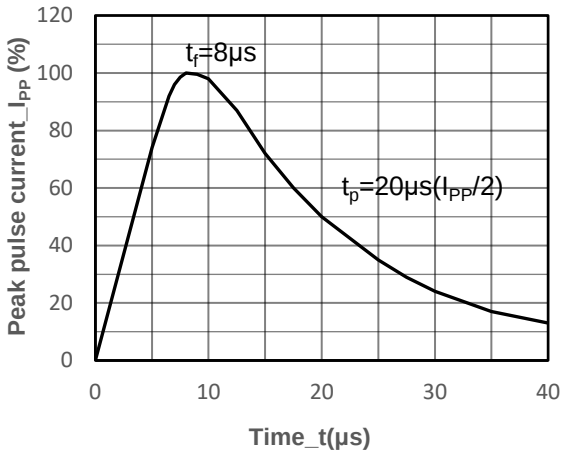
Absolute maximum rating @T_A=25℃

Parameter	Symbol	Value	Unit
Peak Pulse Power（8/20μs）	P_{PP}	234	W
Peak Pulse Current（8/20μs）	I_{PP}	18	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	℃

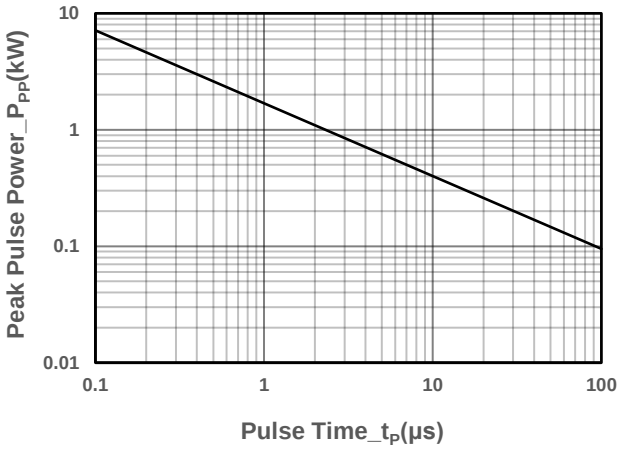
Electrical Characteristics @T_A=25℃

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Peak Reverse Working Voltage	V_{RWM}				5	V
Breakdown Voltage	V_{BR}	I_T = 1mA	6.2		7.8	V
Reverse Leakage Current	I_R	V_{RWM} = 5V			0.2	μA
Clamping Voltage	V_C	I_{PP} = 1A, t_P = 8/20μs		7		V
Clamping Voltage	V_C	I_{PP} = 18A, t_P = 8/20μs		8.5	13	V
Junction Capacitance	C_J	V_R = 0V, f = 1MHz		48		pF

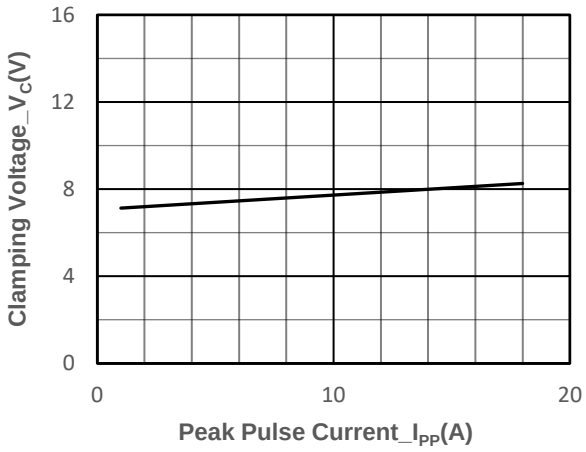
Typical Performance Characteristics



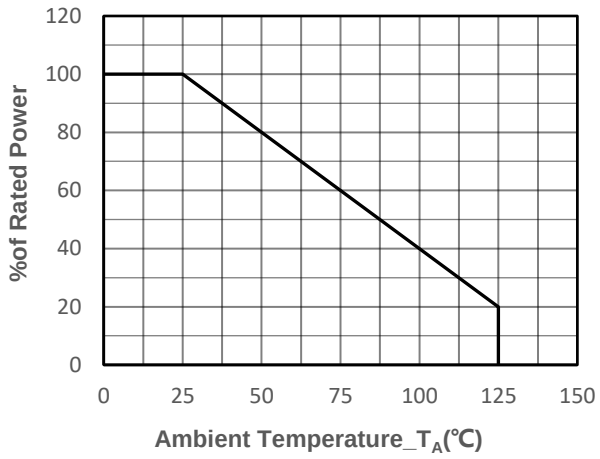
8/20μs Pulse Waveform



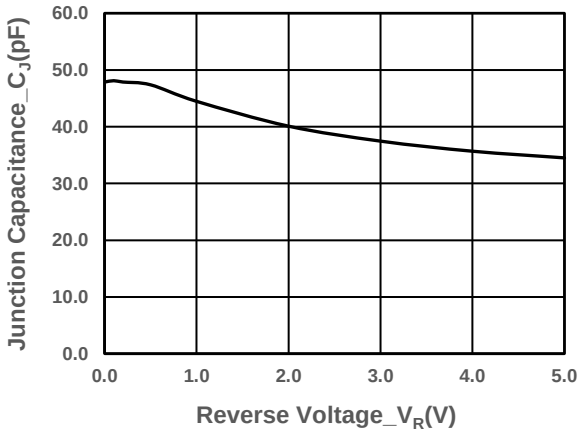
Peak Pulse Power vs. Pulse Time



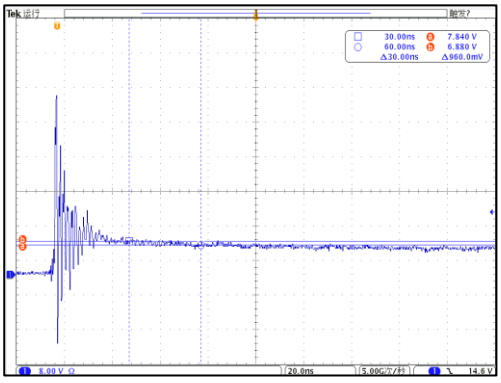
Clamping Voltage vs. Peak Pulse Current



Power derating vs. Ambient temperature



Junction Capacitance vs. Reverse Voltage



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

Package Information

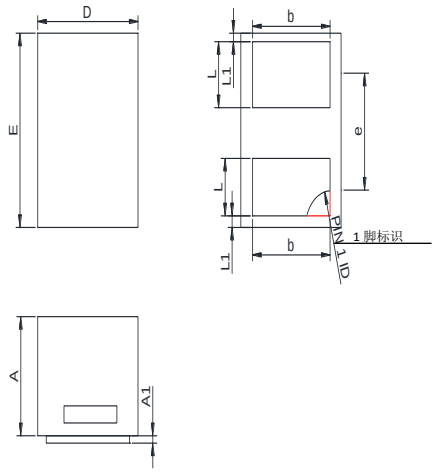
Ordering Information

Device	Package	Qty per Reel	Reel Size
SSCE5V072N1	DFN1006-2L	10000	7 Inch

Mechanical Data

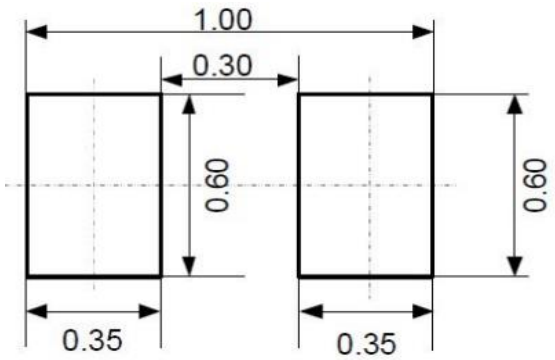
Case: DFN1006-2L

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	

Recommended Pad outline (Unit: mm)



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