



SSCE3V332N1

Ultra-low Capacitance Bi-directional Micro Packaged TVS Diodes for ESD Protection

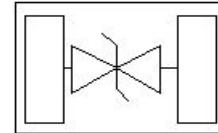
● Description

The SSCE3V332N1 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 high-speed data lines. The SSCE3V332N1 has an ultra-low capacitance with a typical value at 0.2pF, and complies with the IEC 61000-4-2 (ESD) with $\pm 25\text{kV}$ air and $\pm 20\text{kV}$ contact discharge. It is assembled into a DFN1006-2L leadfree package. The small size, ultra-low capacitance and high ESD surge protection make SSCE3V332N1 an ideal choice to protect cell phone, digital video interfaces and other high speed ports.

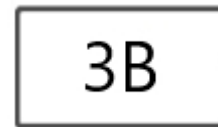
● Feature

- ◇ 60W peak pulse power ($t_P = 8/20\mu\text{s}$)
- ◇ DFN1006-2L Package
- ◇ Working voltage: 3.3V
- ◇ Low clamping voltage
- ◇ Low capacitance
- ◇ RoHS compliant transient protection for high speed data lines to IEC61000-4-2(ESD) $\pm 25\text{kV}$ (air), $\pm 20\text{kV}$ (contact)

● PIN configuration



Top view



Marking

● Applications

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

● Mechanical data

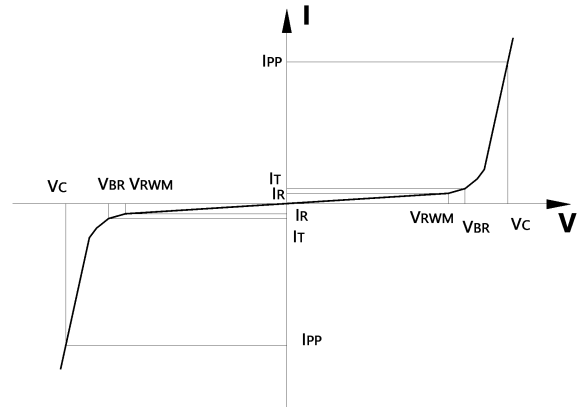
- ◇ Package: DFN1006-2 (1.0×0.6×0.5mm)
- ◇ Mounting position: Any
- ◇ Qualified max reflow temperature:260℃
- ◇ Device meets MSL 1 requirements
- ◇ Pure tin plating: 7 ~ 17 μm
- ◇ Pin flatness: $\leq 3\text{mil}$



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● 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 @TA=25°C

Symbol	Parameter	Value	Units
P_{PP}	Peak Pulse Power (8/20 μ S)	60	W
ESD Rating per IEC61000-4-2:	Contact	20	KV
	Air	25	
T_{STG}	Storage Temperature	-55/+150	°C
T_J	Operating Temperature	-55/+150	°C

● Electrical Characteristics @TA=25°C

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Peak Reverse Working Voltage	V_{RWM}				3.3	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	4.8			V
Reverse Leakage Current	I_R	$V_{RWM} = 3.3\text{V}, T = 25^\circ\text{C}$			0.1	μA
Clamping Voltage	V_C	$I_{PP} = 1\text{A}, t_P = 8/20\mu\text{s}$		10		V
Clamping Voltage	V_C	$I_{PP} = 4\text{A}, t_P = 8/20\mu\text{s}$		19	21	V
Junction Capacitance	C_J	$V_R = 0\text{V}, f = 1\text{MHz}$		0.2	0.35	pF



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- Typical Performance Characteristics

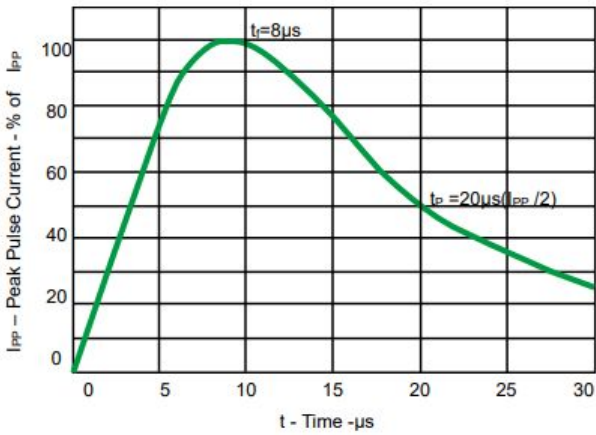


Fig 1. Pulse Waveform

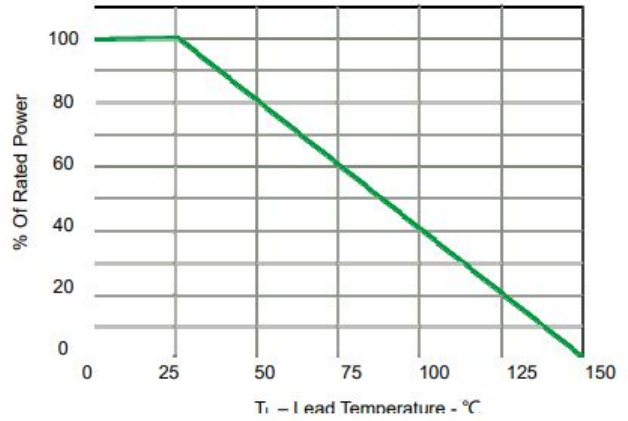


Fig 2. Power Derating Curve

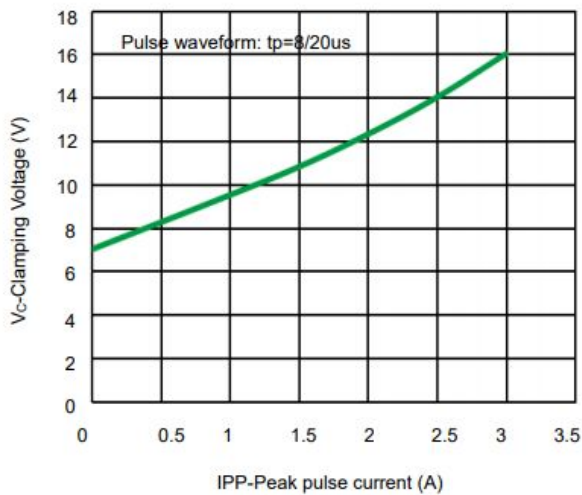


Fig 3. Clamping voltage vs. Peak pulse current

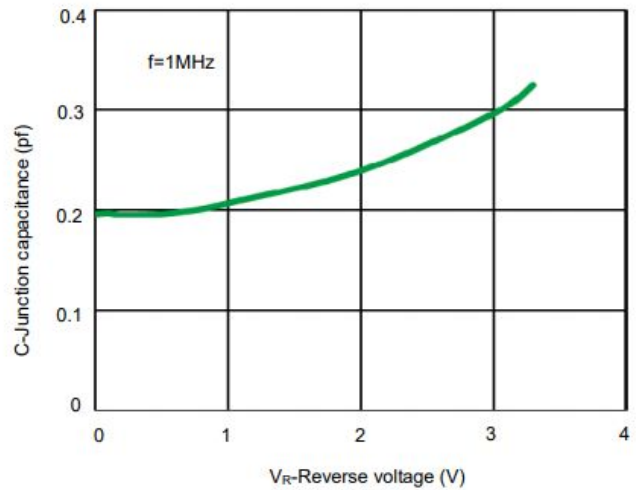


Fig 4. Capacitance vs. Reverse voltage



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● Package Information

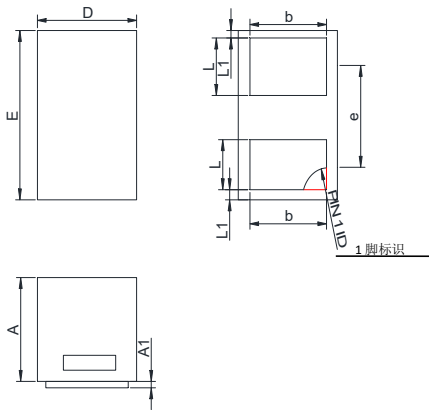
Ordering Information

Device	Package	Qty per Reel	Reel Size
SSCE3V332N1	DFN1006-2L	10000	7 Inch

Mechanical Data

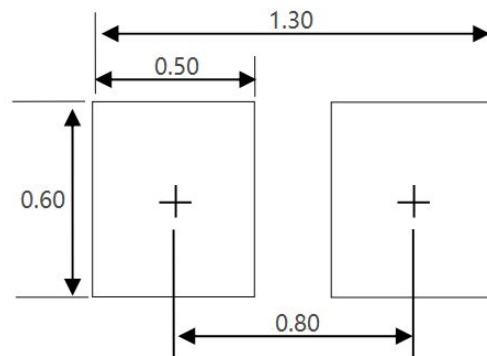
Case:DFN1006-2L

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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