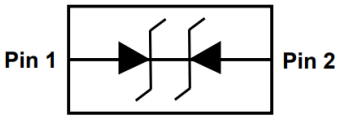
SSCE18V12N1

1-line Bidirectional Micro Packaged TVS Diodes for ESD Protection

Description

The SSCE18V12N1 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 SSCE18V12N1 complies with the IEC 61000-4-2 (ESD) with ±25kV air and ±25kV contact discharge. It is assembled into an ultra-small 1.0x0.6x0.5mm lead-free DFN package. Also because of its low capacitance, it is suited for use in digital cameras，audio Players , notebooks and handhelds and other of the Industrial Equipment.

PIN configuration



Top view

Marking

Feature

- 280W peak pulse power (t_P = 8/20us)
- DFN1006-2L Package
- Working voltage: 18V
- Low clamping voltage
- Low capacitance
- Low leakage current
- RoHS compliant transient protection for high speed data lines to
  -IEC61000-4-2(ESD)±25kV(air), ±25kV(contact)

Applications

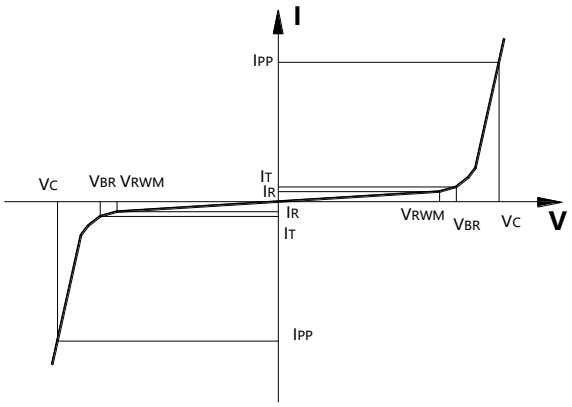
- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals
- Audio Players
- Industrial Equipment

Mechanical data

- Lead finish:100% matte Sn (Tin)
- Mounting position: Any
- Qualified max reflow temperature:260℃
- Device meets MSL 3 requirements
- Pure tin plating: 7 ~ 17 um
- Pin flatness: ≤3mil

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



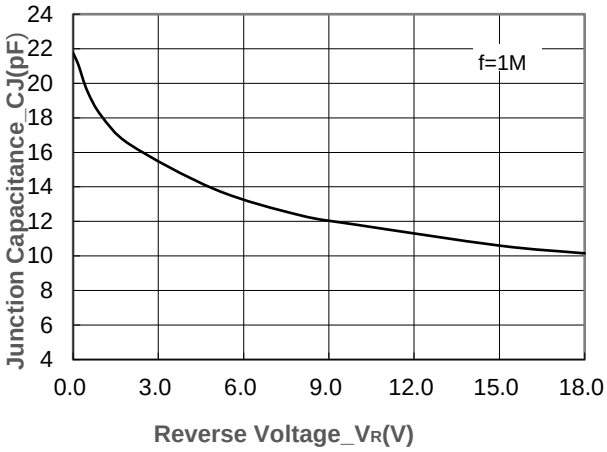
Absolute maximum rating @TA=25℃

Parameter	Symbol	Value	Unit
Peak Pulse Power（8/20us）	P_{PP}	280	W
Peak Pulse Current（8/20us）	I_{PP}	7	A
ESD Rating per IEC61000-4-2： Contact Air	V_{ESD}	25 25	KV
Storage Temperature	T_{STG}	-55/+150	℃
Operating Temperature	T_J	-55/+125	℃

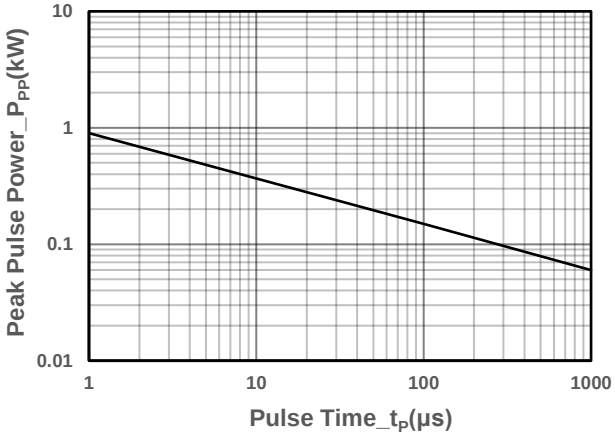
Electrical Characteristics @TA=25℃

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Peak Reverse Working Voltage	V_{RWM}				18	V
Breakdown Voltage	V_{BR}	I_T = 1mA	20			V
Reverse Leakage Current	I_R	V_{RWM} =18V			0.5	μA
Clamping Voltage	V_C	I_{PP} = 1A, t_P = 8/20us			34	V
Clamping Voltage	V_C	I_{PP}=7A, t_P = 8/20us		30	40	V
Junction Capacitance	C_J	V_R=0V, f = 1MHz		21	30	pF

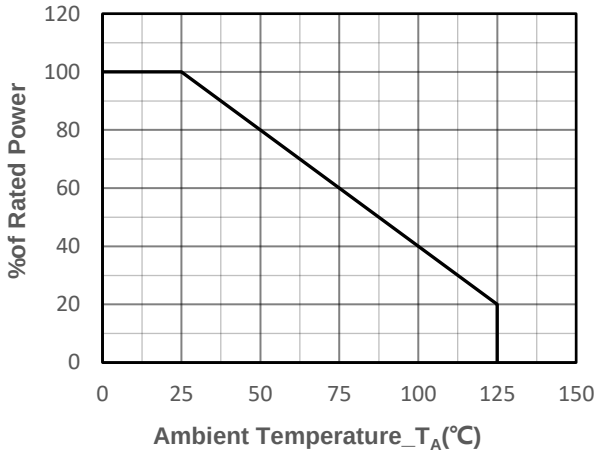
- **Typical Performance Characteristics**



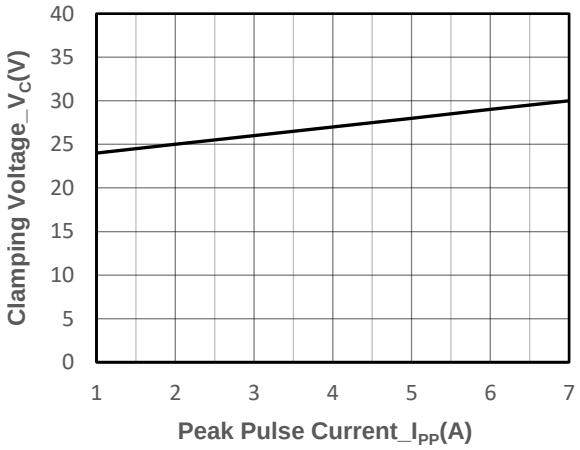
Junction Capacitance vs. Reverse Voltage



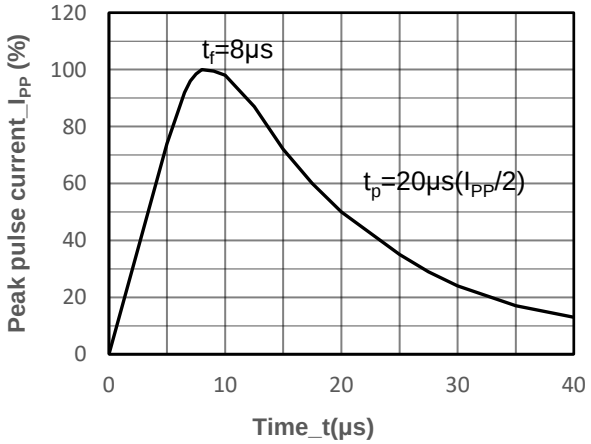
Peak Pulse Power vs. Pulse Time



Power derating vs. Ambient temperature



Clamping Voltage vs. Peak Pulse Current



8/20μs Pulse Waveform

● Package Information

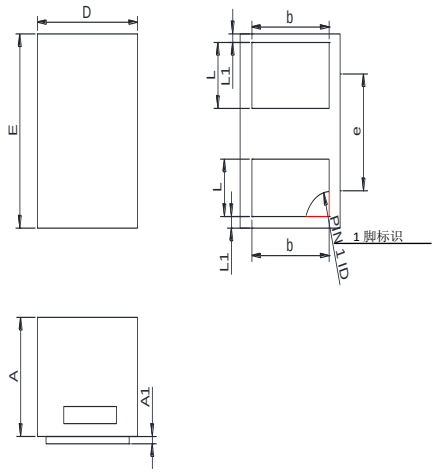
Ordering Information

Device	Package	Qty per Reel	Reel Size
SSCE18V12N1	DFN1006-2L	10000	7 Inch

Mechanical Data

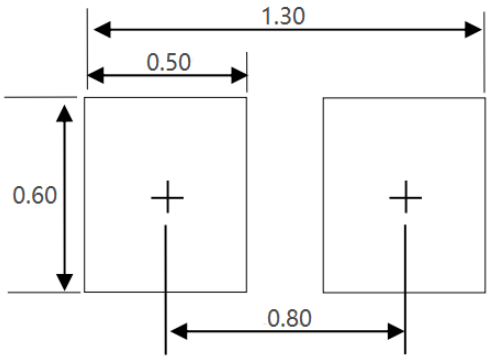
Case: DFN1006-2L

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)



Unit:mm

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