

RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

DESCRIPTION

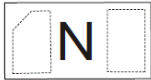
Designed to protect voltage sensitive electronic components from ESD and other transients. Excellent clamping capability, low leakage, low capacitance, and fast response time provide best in class protection on designs that are exposed to ESD.

The combination of small size, low capacitance, and high level of ESD protection makes them a flexible solution for applications such as HDMI, Display Port TM, and MDDI interfaces. It is designed to replace multi-layer varistors (MLV) in consumer equipments applications such as mobile phone, notebook, PAD, STB, LCD TV etc.

FEATURES

- Bi-directional ESD Protection of One Line
- Low Capacitance: 10pF(Typ.)
- Low Reverse Stand-off Voltage: 3.3V
- Low Reverse Clamping Voltage
- Low Leakage Current
- Fast Response Time

MARKING



PACKAGE INFORMATION

Package	MPQ	Leader Size
DFN0201	10 K	7 inch

ORDER INFORMATION

Part Number	Type
SNESD03C-C	Lead (Pb)-free and Halogen-free

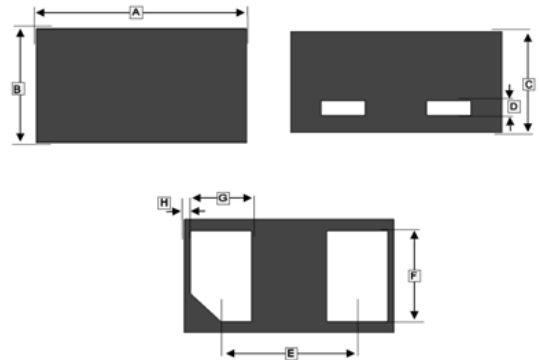
MAXIMUM RATINGS (T_A=25°C unless otherwise noted)

Parameter		Symbol	Rating	Unit
Electrostatic Discharge Voltage(IEC61000-4-2) ¹	Air	V _{ESD}	±25	KV
	Contact		±25	
	Per Human Body Model		±16	
	Per Machine Model		±0.4	
Peak Pulse Power ²		P _{PP}	70	W
Lead Solder Temperature – Maximum (10 Second Duration)		T _L	260	°C
Peak Pulse Current ²		I _{PP}	7	A
Junction and Storage Temperature Range		T _J , T _{STG}	-55~150	°C

Notes:

1. Device stressed with ten non-repetitive ESD pulses.
2. Non-repetitive current pulse 8/20us exponential decay waveform according to IEC61000-4-5.

DFN0201

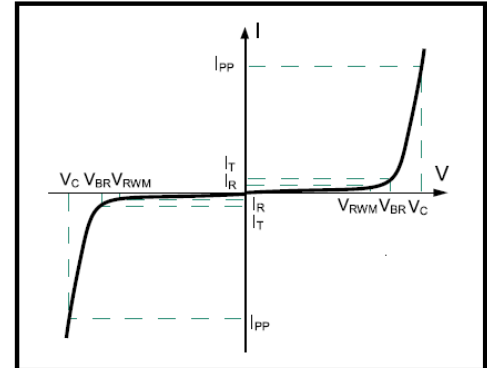


REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	0.56	0.67	E	0.36	0.44
B	0.27	0.37	F	0.22	0.30
C	0.27	0.34	G	0.12	0.20
D	0.05 REF.		H	0.03 REF.	



ELECTRICAL PARAMETER

Symbol	Parameter
V_C	Clamping Voltage @ I_{PP}
I_{PP}	Peak Pulse Current
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_R	Reverse Leakage Current @ V_{RWM}
V_{RWM}	Reverse Standoff Voltage



V-I characteristics for a Bi-directional TVS

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted.)

Parameter	Symbol	Min	Typ	Max	Unit
Working Peak Reverse Voltage	V_{RWM}	-	-	3.3	V
Maximum Reverse Leakage Current @ $V_{RWM}=3.3\text{V}$	I_R	-	-	1	μA
Breakdown Voltage @ $I_T=1\text{mA}$	V_{BR}	3.5	-	6.3	V
Clamping Voltage @ $I_{PP}=7\text{A}^1$	V_C	-	-	10	V
Junction Capacitance @ $V_R=0, f=1\text{MHz}$	C	-	10	-	pF

Notes:

1. Non-repetitive current pulse 8/20us exponential decay waveform according to IEC61000-4-5.

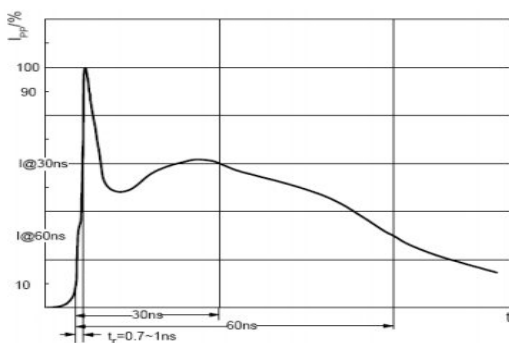
ESD STANDARDS COMPLIANCE

IEC61000-4-2 Standard

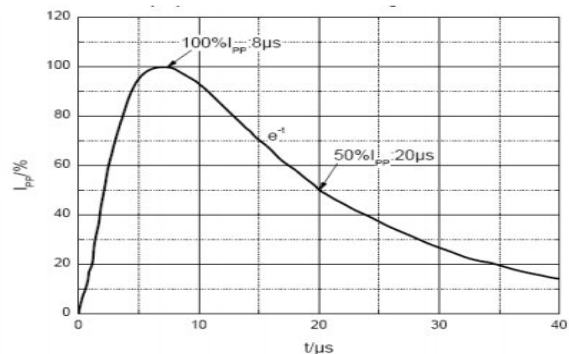
Contact Discharge		Air Discharge	
Level	Test Voltage kV	Level	Test Voltage kV
1	2	1	2
2	4	2	4
3	6	3	8
4	8	4	15

JESD22-A114-B Standard

ESD Class	Human Body Discharge V
0	0~249
1A	250~499
1B	500~999
1C	1000~1999
2	2000~3999
3A	4000~7999
3B	8000~15999



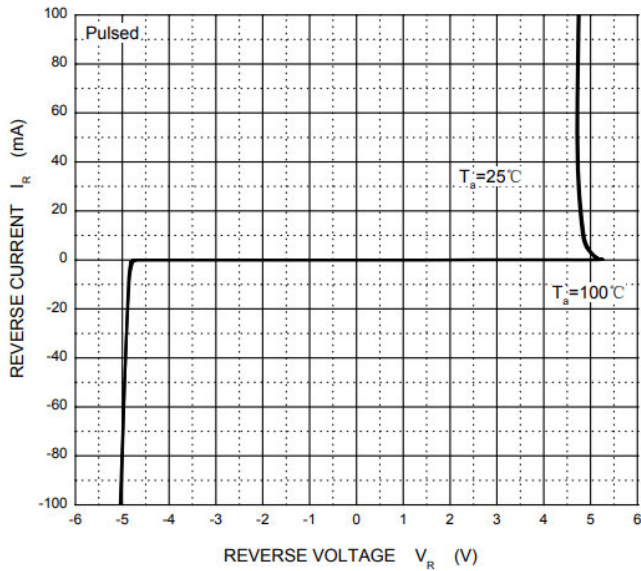
ESD pulse waveform according to IEC61000-4-2



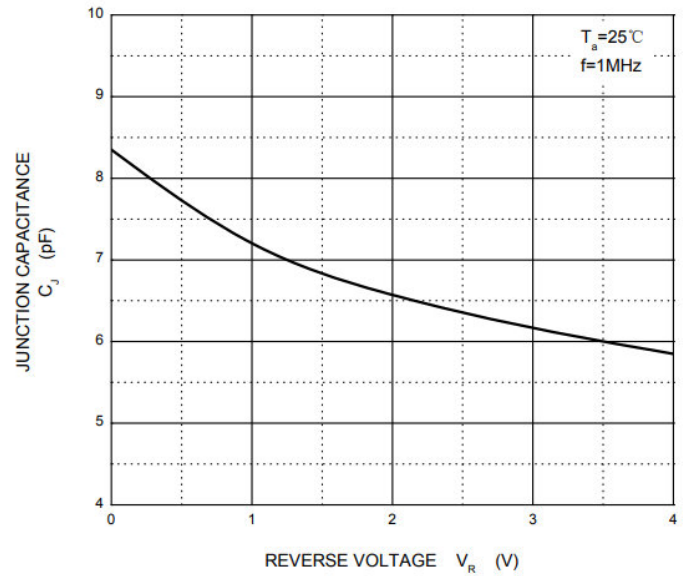
8/20µs pulse waveform according to IEC 61000-4-5

TYPICAL CHARACTERISTICS

Reverse Characteristics



Capacitance Characteristics



V_C — I_{PP}

