Elektronische Bauelemente

SNESD12C-C

84W, 12V

Plastic Encapsulate ESD Protection Diodes

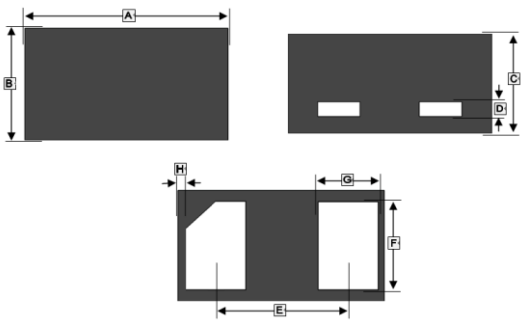
RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

DESCRIPTION

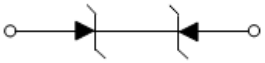
Designed to protect voltage sensitive electronic components from ESD and other transients. Excellent clamping capability, low leakage, low capacitance, and fast response time provide best in class protection on designs that are exposed to ESD.

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 multiplayer varistors (MLV) in consumer equipments applications such as mobile phone, notebook, PAD, STB, LCD TV etc.

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.	



FEATURES

- Bi-directional ESD Protection of One Line
- Low Capacitance: 8pF(Typ.)
- Low Reverse Stand−off Voltage: 12V
- Low Reverse Clamping Voltage
- Low Leakage Current
- Fast Response Time

MARKING

C2

PACKAGE INFORMATION

Package	MPQ	Leader Size
DFN0201	10K	7 inch

ORDER INFORMATION

Part Number	Type
SNESD12C-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}	84	W
Lead Solder Temperature – Maximum (10 Second Duration)		T_L	260	°C
Peak Pulse Current [2]		I_{PP}	3.5	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.

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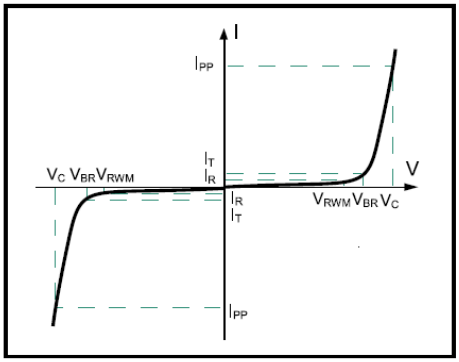
ELECTRICAL PARAMETER

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°C unless otherwise noted.)

Parameter		Symbol	Min	Typ	Max	Unit
Working Peak Reverse Voltage		V_{RWM}	-	-	12	V
Maximum Reverse Leakage Current@ V_{RWM}=12V		I_R	-	-	1	μA
Breakdown Voltage	I_T =1mA	V_{BR}	13.5	-	17.5	V
	I_T =100mA		12	-	-	
Clamping Voltage @I_{PP} =3A [1]		V_C	-	25	29	V
TLP Clamping Voltage @I_{TLP}=16A [2]			-	16.3	-	
Dynamic Resistance [2]		R_{DYN}	-	0.32	-	Ω
Junction Capacitance @V_R=0, f=1MHz		C	-	8	15	pF

Notes:

1. Non-repetitive current pulse 8/20us exponential decay waveform according to IEC61000-4-5.
2. Pulse Width=100nS.

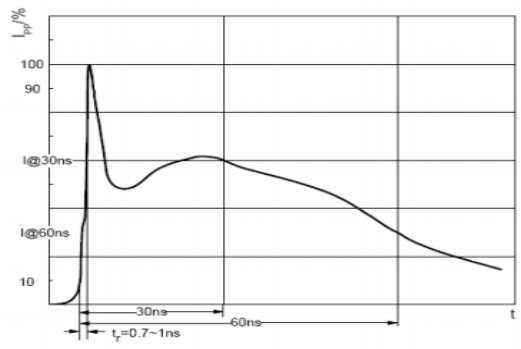
ESD STANDARDS COMPLOANCE

IEC61000-4-2 Standard

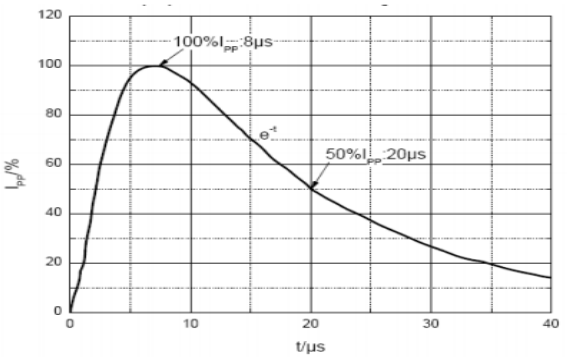
Contact Discharge		Air Discharge	
Level	Test Voltage kV	Level	Test Voltage kV
1	2	1	2
2	4	2	4
3	6	3	8
4	8	4	15

JESD22-A114-B Standard

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



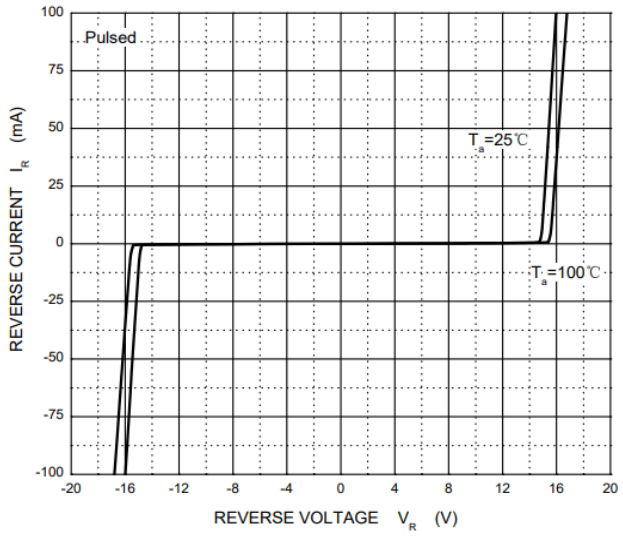
ESD pulse waveform according to IEC61000-4-2



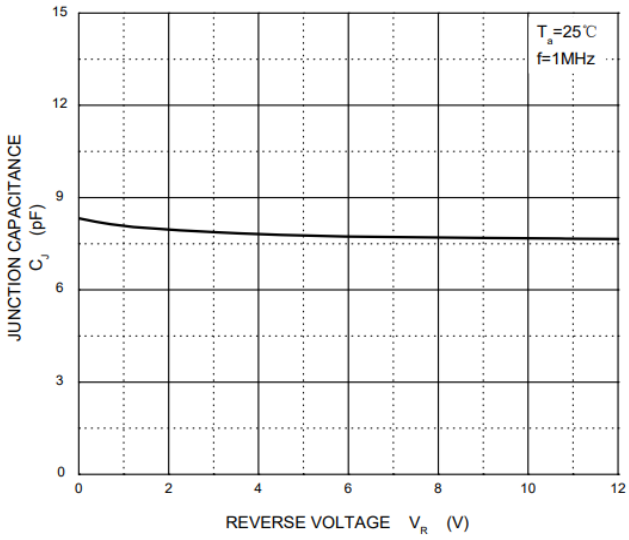
8/20μs pulse waveform according to IEC 61000-4-5

TYPICAL CHARACTERISTICS

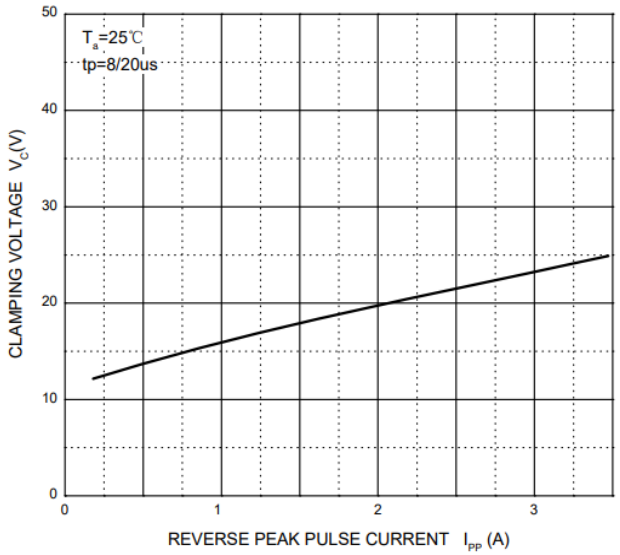
Reverse Characteristics



Capacitance Characteristics



V_C — I_{PP}



Transmission Line Pulsing (TLP) Measurement