

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

## DESCRIPTION

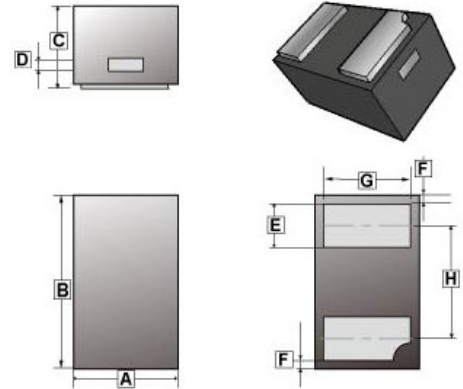
Designed to protect voltage sensitive electronic components from ESD and other transients. Excellent clamping capability, low leakage, low capacitance, and fast response time provide best in class protection on designs that are exposed to ESD.

The combination of small size, low capacitance, and high level 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.

## FEATURES

- Uni-directional ESD protection of one line
- Low reverse stand-off voltage: 5V
- Low reverse clamping voltage
- Low leakage current
- Excellent package: 0.62mm×0.32mm×0.31mm
- Fast response time
- JESD22-A114-B ESD Rating of class 3B per human body model
- IEC 61000-4-2 Level 4 ESD protection

### DFNWB0.6x0.3-2L



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	0.27	0.37	E	0.125	0.195
B	0.57	0.67	F	0.02REF	
C	0.275	0.34	G	0.225	0.295
D	0.05 REF		H	0.365	0.435

## MARKING



## PACKAGE INFORMATION

Package	MPQ	Leader Size
DFNWB0.6x0.3-2L	10K	7 inch

## ORDER INFORMATION

Part Number	Type
SUESD05	Lead (Pb)-free
SUESD05-C	Lead (Pb)-free and Halogen-free

## MAXIMUM RATINGS (T<sub>A</sub>=25°C unless otherwise noted)

Parameter		Symbol	Rating	Unit	
IEC 61000-4-2 ESD Voltage <sup>1</sup>	Air Model	V <sub>ESD</sub>	±25	kV	
	Contact Model		±25		
	JESD22-A114-B ESD Voltage <sup>1</sup>		Per Human Body Model		±16
	ESD Voltage <sup>1</sup>		Machine Model		±0.4
Peak Pulsed Power <sup>2</sup>		P <sub>PP</sub>	117	W	
Peak Pulsed Current <sup>2</sup>		I <sub>PP</sub>	9	A	
Maximum Lead Solder Temperature@10Sec duration		T <sub>L</sub>	260	°C	
Junction and Storage Temperature Range		T <sub>J</sub> , T <sub>STG</sub>	150, -55~150	°C	

Notes:

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

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

Parameter	Symbol	Min.	Typ.	Max.	Unit
Working Peak Reverse Voltage	$V_{RWM}$	-	-	5	V
Reverse Leakage Current@ $V_{RWM}=5\text{V}$	$I_R$	-	-	1	$\mu\text{A}$
Breakdown Voltage@ $I_T=1\text{mA}$	$V_{BR}$	5.8	-	9.4	V
Clamping Voltage <sup>1</sup> @ $I_{PP}=9\text{A}$	$V_C$	-	-	13	V
Forward Voltage@ $I_F=10\text{mA}$	$V_F$	-	-	1	V
Junction Capacitance@ $V_R=0\text{V}$ , $f=1\text{MHz}$	$C_J$	-	55	-	pF

Note:

1. Non-repetitive current pulse 8/20 $\mu\text{s}$  exponential decay waveform according to IEC61000-4-5.

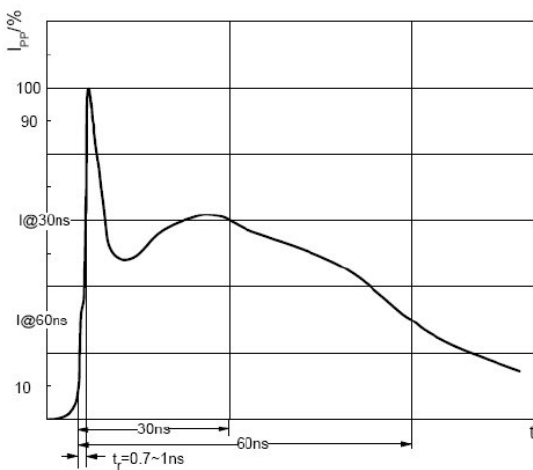
**ESD STANDARDS COMPLIANCE**

**IEC61000-4-2 Standard**

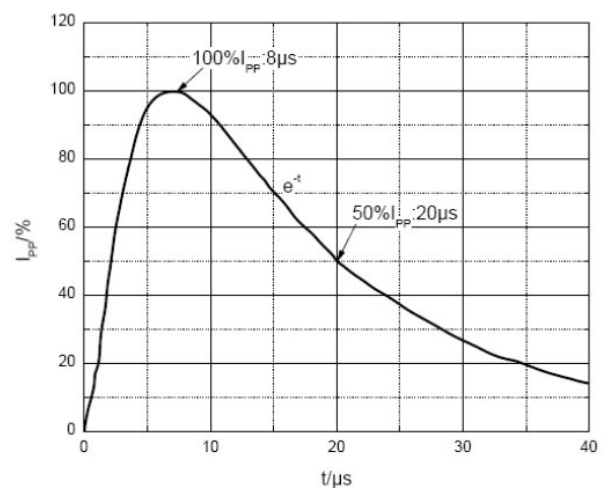
Contact Discharge		Air Discharge	
Level	Test Voltage kV	Level	Test Voltage kV
1	2	1	2
2	4	2	4
3	6	3	8
4	8	4	15

**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



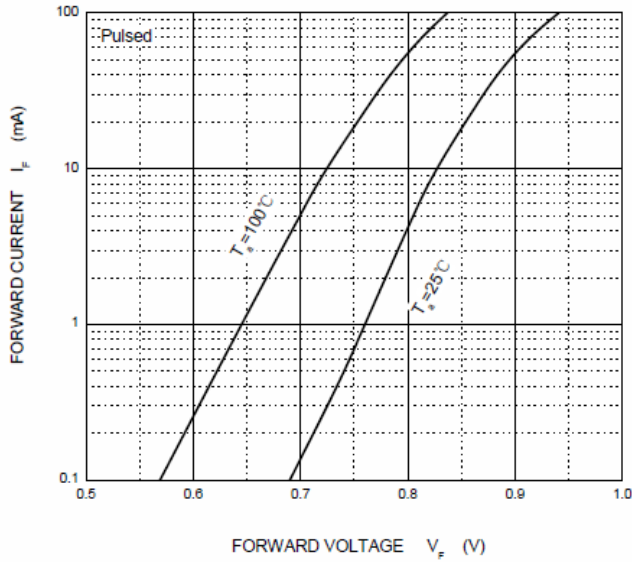
ESD pulse waveform according to IEC61000-4-2



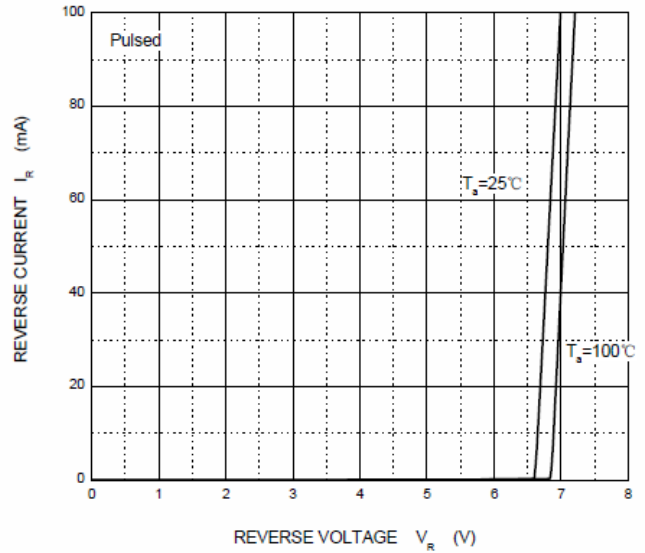
8/20 $\mu\text{s}$  pulse waveform according to IEC 61000-4-5

**CHARACTERISTICS CURVES**

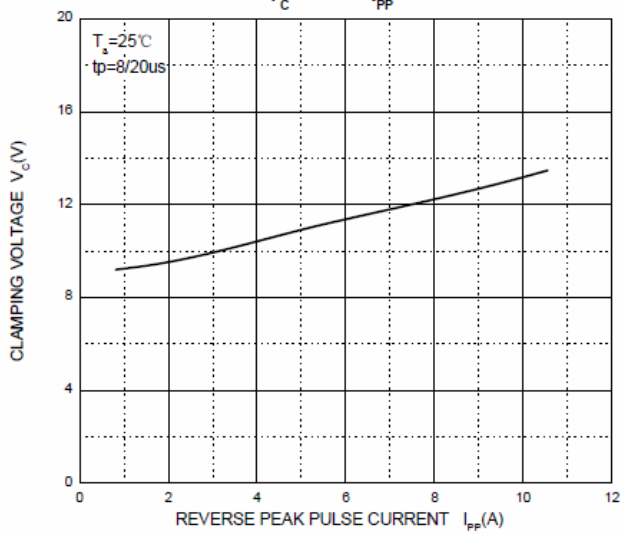
**Forward Characteristics**



**Reverse Characteristics**



$V_C$  —  $I_{PP}$



**Capacitance Characteristics**

