Elektronische Bauelemente

SBESD18CL-C

48W, 18V

Low Capacitance ESD Protection (Bi-directional)

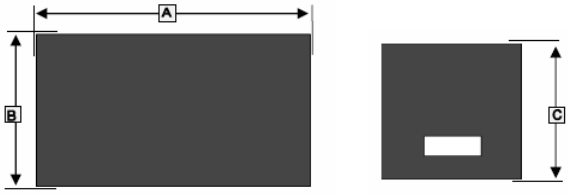
RoHS Compliant Product
A suffix of "-C" specifies halogen and lead-free

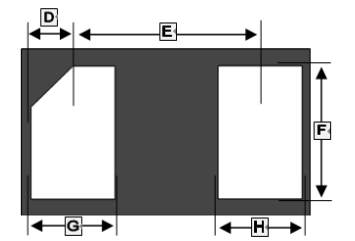
DESCRIPTION

Designed to protect voltage sensitive electronic components from ESD and other transients, Excellent clamping capability, 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. It is designed to replace multiplayer varistors (MLV) in consumer equipments applications such as mobile phone, notebook, PAD, STB, LCD TV etc.

DFN1006





REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	0.95	1.08	E	0.65BSC	
B	0.55	0.68	F	0.4	0.6
C	0.4	0.55	G	0.2	0.3
D	0.07	0.17	H	0.2	0.3

FEATURES

- Bi-directional ESD protection of one line
- Low capacitance
- Low reverse clamping voltage
- Fast response time
- JESD22-A114-B ESD Rating of class 3B per human body model
- IEC 61000-4-2 Level 3 ESD protection

MARKING

PACKAGE INFORMATION

Package	MPQ	Leader Size
DFN1006	10K	7 inch

ORDER INFORMATION

Part Number	Type
SBESD18CL-C	Lead (Pb)-free and Halogen-free

ABSOLUTE MAXIMUM RATINGS (T_A=25℃ unless otherwise noted.)

Parameter		Symbol	Ratings	Unit
IEC 61000-4-2 ESD Voltage [1]	Air	V_{ESD}	±20	kV
	Contact		±20	
JESD22-A114-B ESD Voltage [1]	Per Human Body Model		±20	
	Machine Model		±0.4	
Peak Pulse Power [2]		P_{PP}	48	W
Peak Pulse Current [2]		I_{PP}	4	A
Maximum Lead Solder Temperature(10 Second Duration)		T_L	260	℃
Operating Junction and Storage Temperature Range		T_J, T_{STG}	150, -55~150	℃

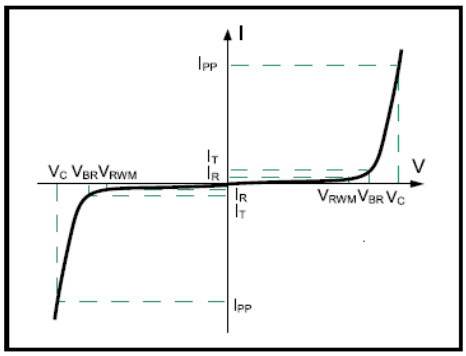
ELECTRICAL CHARACTERISTICS (T_A=25℃ unless otherwise noted.)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Reverse Stand-off Voltage	V_{RWM}	-	-	18	V	
Breakdown Voltage	$V_{(BR)}$	19	21	-	V	I_T=1mA
Clamping Voltage [2]	V_C	-	12	-	V	I_{PP}=4A
Reverse Leakage Current	I_R	-	-	0.1	μA	V_{RWM}=18V
Junction Capacitance	C_J	-	0.35	0.5	pF	V_R=0V, f=1MHz

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 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

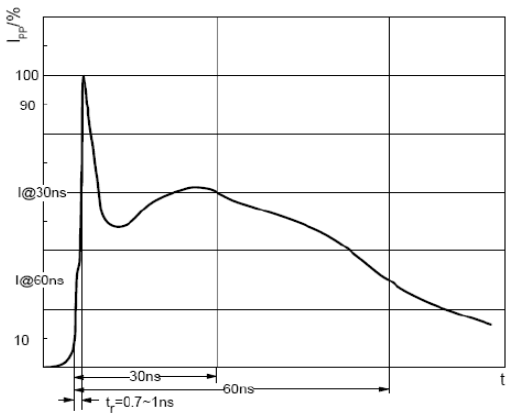
ESD STANDARDS COMPLIANCE

IEC61000-4-2 Standard

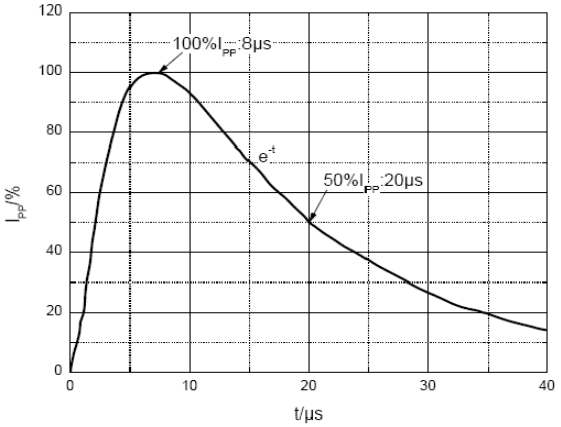
Contact Discharge		Air Discharge	
Level	Test Voltage kV	Level	Test Voltage kV
1	2	1	2
2	4	2	4
3	6	3	8
4	8	4	15

JESD22-A114-B Standard

ESD Class	Human Body Discharge V
0	0～249
1A 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