Elektronische Bauelemente

STESD05CL

40W, 5V

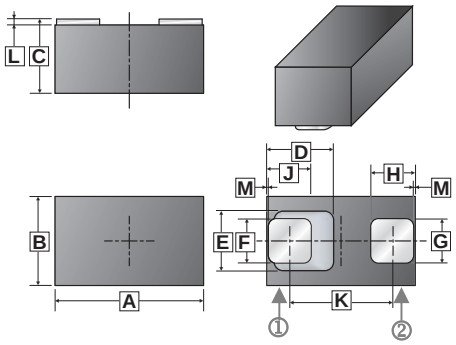
Low Capacitance ESD Protection (Bi-directional)

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

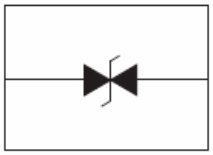
DESCRIPTION

Designed to protect voltage sensitive electronic components from ESD and other transients. Excellent clamping capability, low 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.

WBFBP-02C



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	0.950	1.050	G	0.275	0.325
B	0.550	0.650	H	0.275	0.325
C	0.450	0.550	J	0.275	0.325
D	0.450 REF.		K	0.675	0.725
E	0.400 REF.		L	0.010	0.070
F	0.275	0.325	M	0.010 REF.	



Bi-direction

APPLICATIONS

- Computers and peripherals
- High speed data lines
- Audio and video equipment
- Cellular handsets and accessories
- Subscriber identity module(SIM) card protection

FEATURES

- Bi-directional ESD protection of one line
- Low capacitance: 12pF(Typ.)
- Low reverse stand−off voltage: 5.0V
- Low reverse clamping voltage
- Low leakage current
- Excellent package:1.0mm×0.6mm×0.5mm
- Fast response time
- JESD22-A114-B ESD Rating of class 3B per human body model
- IEC 61000-4-2 Level 4 ESD protection

MARKING

Top View

PACKAGE INFORMATION

Package	MPQ	Leader Size
WBFBP-02C	10K	7 inch

Elektronische Bauelemente

STESD05CL

40W, 5V

Low Capacitance ESD Protection (Bi-directional)

ABSOLUTE MAXIMUM RATINGS (T_A=25°C unless otherwise specified)

Rating		Symbol	Value	Unit
IEC 61000-4-2 (ESD) [1]	Air contact	V_{ESD}	±25	kV
	Contact Model		±25	
JESD22-A114-B ESD Voltage [1]	Per Human Body Model		±16	
ESD Voltage [1]	Machine Model		±0.4	
Peak pulse power [2]		P_{PP}	40	W
Peak pulse current [2]		I_{PP}	4	A
Storage temperature range		T_J, T_{STG}	150, -55 ~ 150	°C
Lead Solder Temperature − Maximum (10 Second Duration)		T_L	260	°C

Note:
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°C unless otherwise specified)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Reverse stand off voltage [1]	V_{RWM}		-	-	5	V
Reveres leakage current	I_R	V_{RWM}=5V	-	-	0.1	μA
Reveres breakdown voltage	V_{BR}	I_T=1mA	5.8	-	8	V
Clamping Voltage [2]	V_C	I_{PP}=4A	-	-	10	V
Junction capacitance	C_J	f=1MHz, V_R=0	-	12	15	pF

Note:
1. Other voltages available upon request.
2. Non-repetitive current pulse 8/20μs exponential decay waveform according to IEC61000-4-5

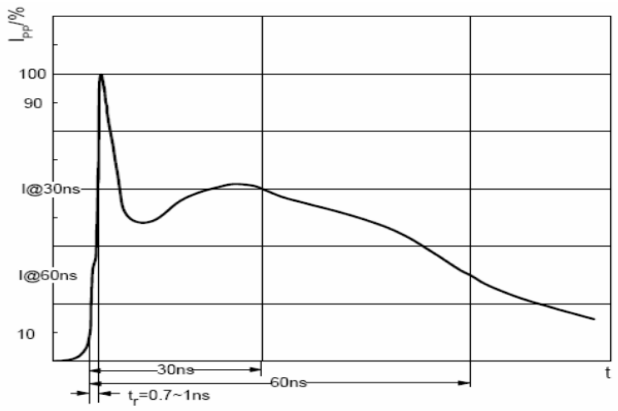
ESD STANDARDS COMPLIANCE

IEC61000-4-2 Standard

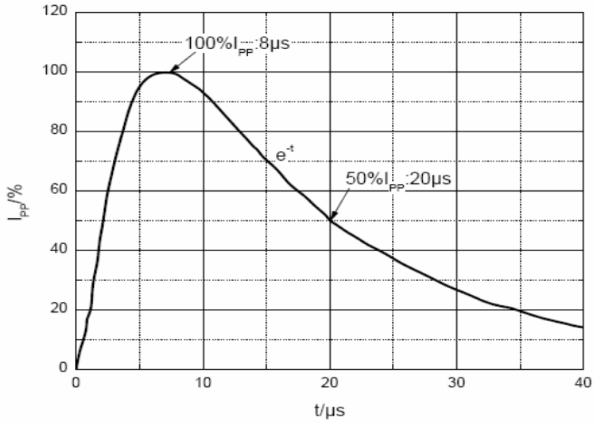
Contact Discharge		Air Discharge	
Level	Test Voltage kV	Level	Test Voltage kV
1	2	1	2
2	4	2	4
3	6	3	8
4	8	4	15

JESD22-A114-B Standard

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

RATINGS AND CHARACTERISTICS CURVES