Elektronische Bauelemente

STESD03C-C

70W, 3.3V

Low Capacitance ESD Protection (Bi-directional)

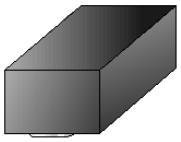
RoHS Compliant Product
A suffix of "-C" specifies halogen and lead-free

DESCRIPTION

The STESD03C-C is 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



FEATURES

- Bi-Directional ESD Protection of One Lines
- Low Capacitance and Clamping Voltage
- Reverse Stand−off Voltage: 3.3V
- Low Leakage Current
- Fast Response Time
- JESD22-A114-B ESD Rating of Class 3B per Human Body Model
- IEC 61000-4-2 Level 4 ESD Protection

APPLICATIONS

- Computers and Peripherals
- High Speed Data Lines
- Audio and Video Equipment
- Cellular Handsets and Accessories
- Subscriber Identity Module(SIM) Card Protection

MARKING

PACKAGE INFORMATION

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

ORDER INFORMATION

Part Number	Type
STESD03C-C	Lead (Pb)-free and Halogen-free

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

Parameter		Symbol	Ratings	Unit
IEC 61000-4-2 ESD Voltage [1]	Air Model	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}	70	W
Peak Pulse Current [2]		I_{PP}	7	A
Maximum Lead Solder Temperature (10 Sec. Duration)		T_L	260	°C
Operating & Storage Temperature Range		T_J ,T_{STG}	150, -55~150	

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ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Reverse Working Voltage	V_{RWM}	-	-	3.3	V	
Reverse Breakdown Voltage	V_{BR}	4	-	6	V	I_T=1mA
Reverse Leakage Current	I_R	-	-	0.4	μA	V_{RWM}=3.3V
Clamping Voltage [2]	V_C	-	-	10	V	I_{PP}=7A
Junction Capacitance	C_J	-	15	20	pF	V_R=0, 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.

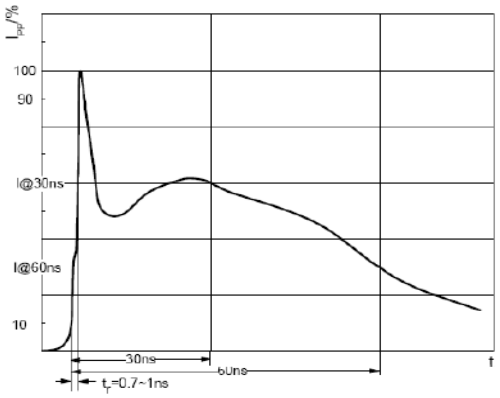
ESD Standards Compliance

IEC61000-4-2 Standard

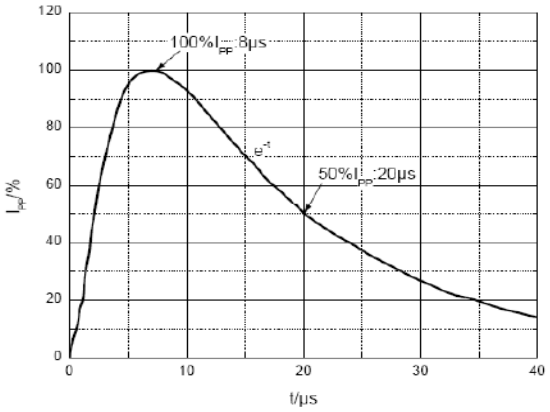
Contact Discharge		Air Discharge	
Level	Test Voltage kV	Level	Test Voltage kV
1	2	1	2
2	4	2	4
3	6	3	8
4	8	4	15

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



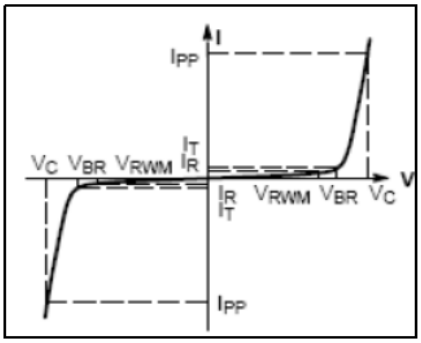
ESD pulse waveform according to IEC61000-4-2



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

ELECTRICAL PARAMETER

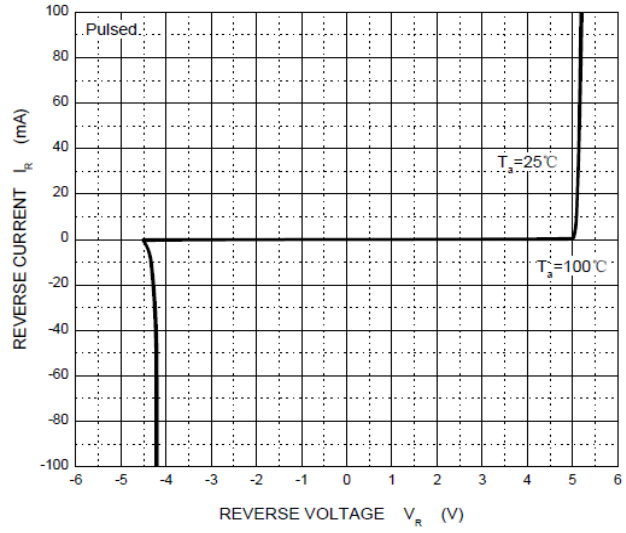
Symbol	Parameter
V_C	Clamping Voltage @ I_{PP}
I_{PP}	Peak Pulse Current
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_R	Reverse Leakage Current @ V_{RWM}
V_{RWM}	Reverse Standoff Voltage



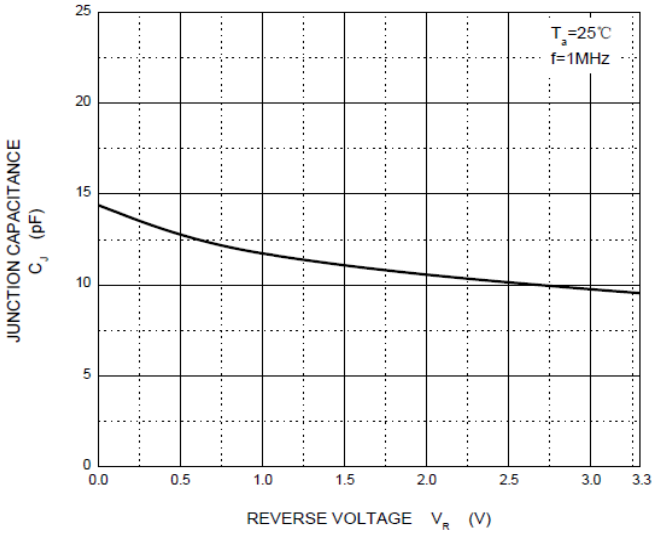
V-I characteristics for a Bi-directional TVS

RATINGS AND CHARACTERISTICS CURVES

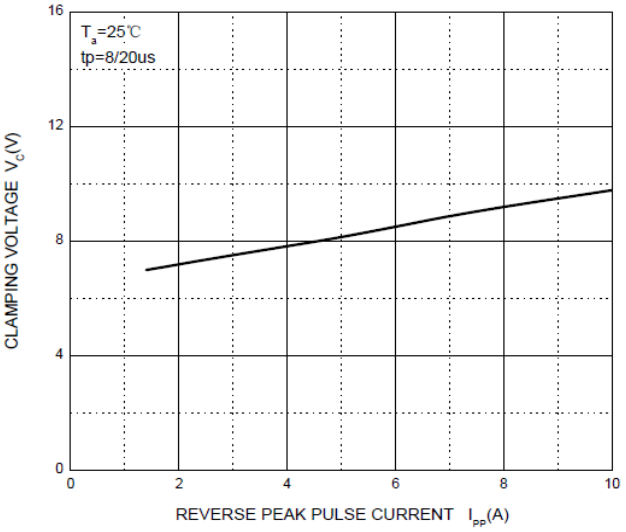
Reverse Characteristics



Capacitance Characteristics

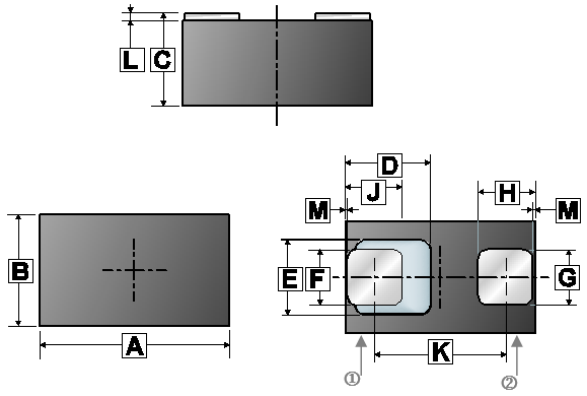


V_C —— I_{PP}



PACKAGE OUTLINE DIMENSIONS

WBFBP-02C



REF.	Millimeter	
	Min.	Max.
A	0.95	1.05
B	0.55	0.65
C	0.44	0.55
D	0.47 REF.	
E	0.42 REF.	
F	0.27	0.37
G	0.25	0.35
H	0.25	0.35
J	0.275	0.47
K	0.555	0.725
L	0.01	0.10
M	0.03 REF.	

MOUNTING PAD LAYOUT

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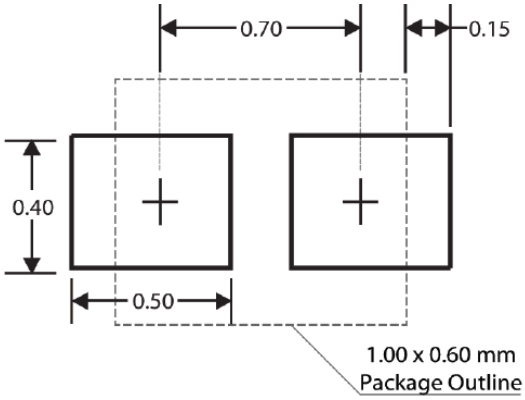

*Dimensions in millimeters