

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

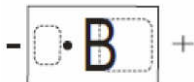
DESCRIPTION

The STESD05-C is designed to protect voltage sensitive components from ESD. Excellent clamping capability, low leakage, and fast response time provide best in class protection on designs that are exposed to ESD. Because of its small size, it is suited for use in cellular phones, MP3 players, digital cameras and many other portable applications where board space is at a premium.

APPLICATIONS

- Stand-off Voltage: 5V
- Low Leakage
- Response Time is Typically <1ns
- ESD Rating of Class 3 (>16kV) Per Human Body Model
- IEC61000-4-2 Level 4 ESD Protection

MARKING



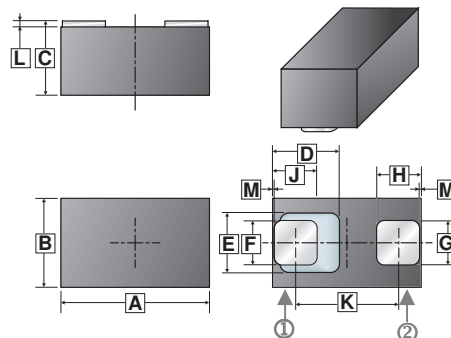
PACKAGE INFORMATION

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

ORDER INFORMATION

Part Number	Type
STESD05-C	Lead (Pb)-free and Halogen-free

WBFBP-02C



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	0.95	1.05	G	0.25	0.35
B	0.55	0.65	H	0.25	0.35
C	0.44	0.55	J	0.275	0.47
D	0.470 REF.		K	0.555	0.725
E	0.420 REF.		L	0.010	0.100
F	0.27	0.37	M	0.030 REF.	



MAXIMUM RATINGS (T_A=25°C)

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		±16	
	Machine Model		±0.4	
Peak Pulse Power ²		P _{PP}	170	W
Peak Pulse Current ²		I _{PP}	13	A
Lead Solder Temperature-Maximum (10 Second Duration)		T _L	260	°C
Junction and Storage Temperature Range		T _J , T _{STG}	-55~150	°C

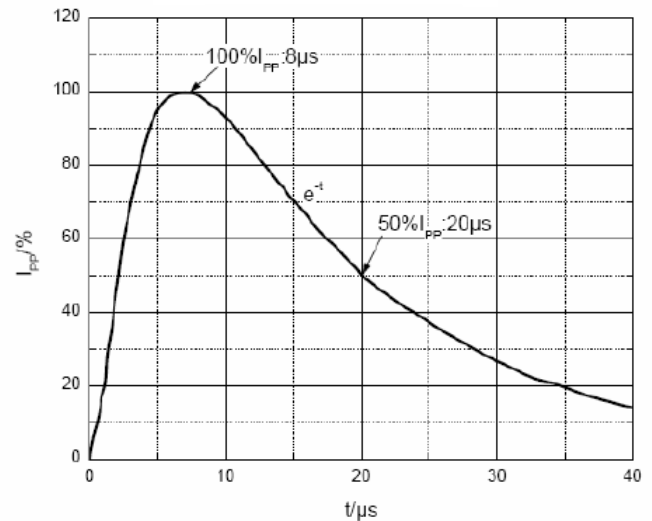
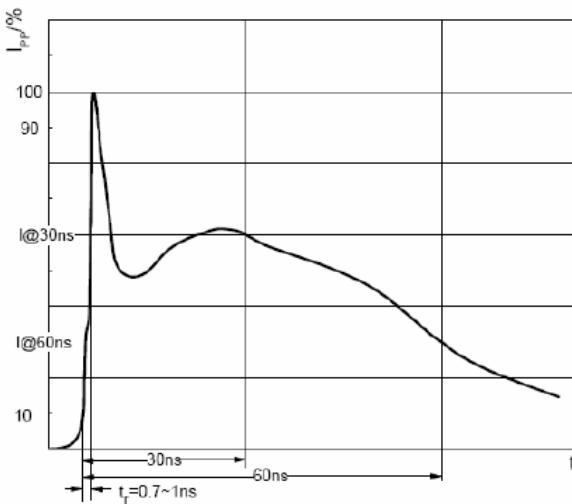
Notes:

1. Device stressed with ten non-repetitive ESD pulses.
2. Non-repetitive current pulse 8/20µs 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	250~499
1B	500~999
1C	1000~1999
2	2000~3999
3A	4000~7999
3B	8000~15999

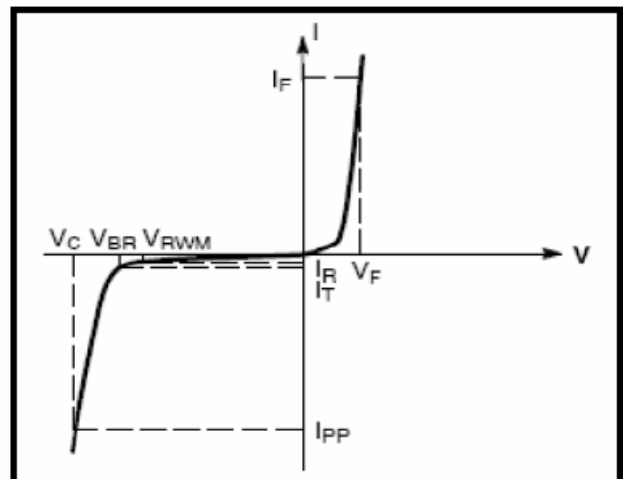


ESD pulse waveform according to IEC61000-4-2

8/20µs 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_F	Forward Voltage @ I_F
I_F	Forward Current



V-I characteristics for a uni-directional TVS

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

Parameter	Symbol	Min.	Typ.	Max.	Unit
Working Peak Reverse Voltage ¹	V_{RWM}	-	-	5	V
Maximum Reverse Leakage Current @ $V_{RWM}=5\text{V}$	I_R	-	-	1	μA
Breakdown Voltage @ $I_T=1\text{mA}$	V_{BR}	6.2	-	7.3	V
Clamping Voltage @ $I_{PP}=13\text{A}$ ²	V_C	-	-	13	V
Forward Voltage @ $I_F=10\text{mA}$	V_F	-	-	0.9	V
Junction capacitance @ $V_R=0, f=1\text{MHz}$	C_J	-	95	-	pF

Notes:

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

CHARACTERISTICS CURVES

