Elektronische Bauelemente

STESD03-C

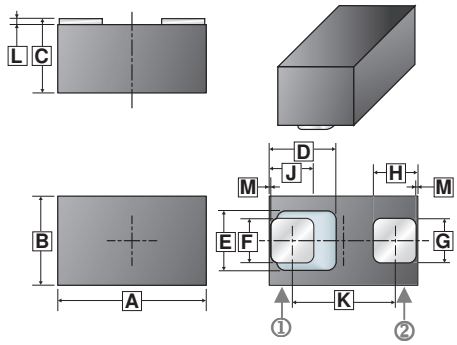
Plastic Encapsulate ESD Protection Diodes

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

DESCRIPTION

The STESD03-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.

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.	

APPLICATIONS

- Stand-off Voltage: 3.3V
- Low Leakage
- Response Ttime 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
STESD03-C	Lead (Pb)-free and Halogen-free

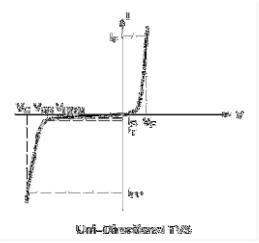
MAXIMUM RATINGS (T_A=25℃)

Parameter		Symbol	Ratings	Unit
IEC 61000-4-2 (ESD)	Contact		±30	KV
ESD Voltage	Per Human Body Model		16	KV
	Per Machine Model		400	V
Total Power Dissipation On FR-5 Board [1]		P_D	100	mW
Thermal Resistance Junction-Ambient		$R_{\theta JA}$	1250	℃/W
Lead Solder Temperature-Maximum (10 Second Duration)		T_L	260	℃
Junction and Storage Temperature Range		T_J, T_{STG}	-55~150	℃

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended. Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

Note:

1. FR-5=1.0 x 0.75 x 0.62 in.



ELECTRICAL CHARACTERISTICS (T_A=25℃ unless otherwise noted)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Working Peak Reverse Voltage	V_{RWM}	-	-	3.3	V
Maximum Reverse Leakage Current @V_{RWM}	I_R	-	-	2.5	μA
Breakdown Voltage @I_T [2]	V_{BR}	5	-	5.9	V
Test Current	I_T	-	-	1	mA
Maximum Reverse Peak Pulse Current [3]	I_{PP}	-	-	9.8	A
Clamping Voltage @I_{PP} [3]	V_C	-	-	11.4	V
Peak Power Dissipation (8X20μs)	P_{PK}	-	102	-	W
Max. Capacitance @V_R=0 and f=1MHz	C	-	80	-	pF

Notes:

2. V_{BR} is measured with a pulse test current I_T at an ambient temperature of 25℃.
3. Surge current waveform per Figure 3.

CHARACTERISTICS CURVES

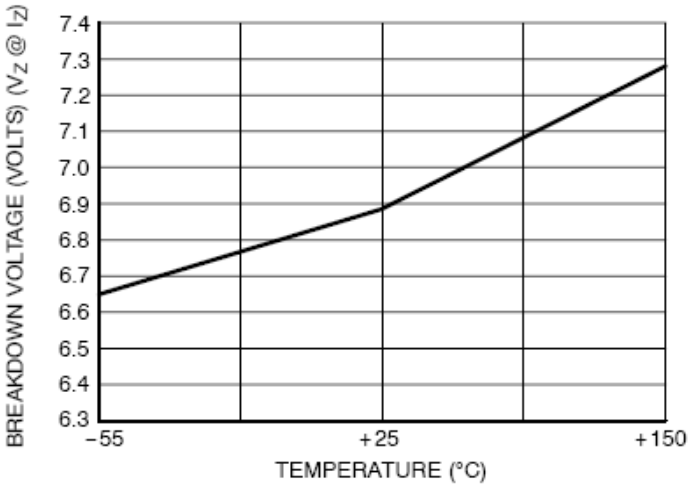


Figure 1. Typical Breakdown Voltage versus Temperature

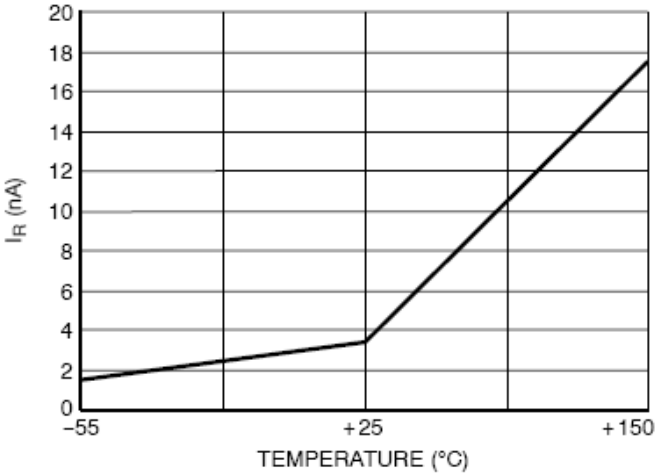


Figure 2. Typical Leakage Current versus Temperature

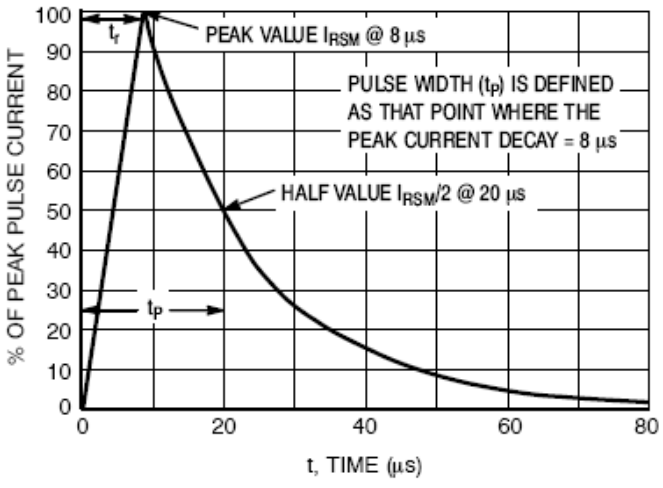


Figure 3. 8 X 20 μs Pulse Waveform