

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

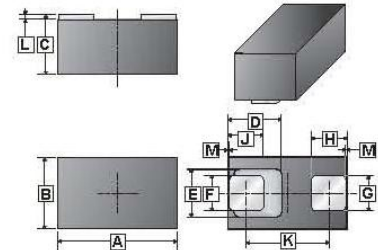
DESCRIPTION

The STESD12 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: 12V
- Low Leakage
- Response Time is Typically < 1 ns
- ESD Rating of Class 3 (>16kV) per Human Body Model
- IEC61000-4-2 level 4 ESD protection
- These are Pb-Free Devices

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.	

DEVICE MARKING: C



MAXIMUM RATINGS (T_A = 25°C)

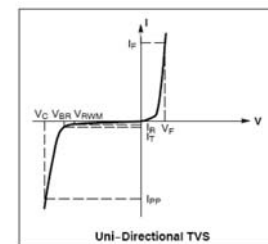
PARAMETER	SYMBOL	VALUE	UNIT
IEC 61000-4-2 (ESD)	Contact	±30	KV
ESD voltage	Per Human Body Model	16	KV
	Per Machine Model	400	V
Total power dissipation on FR-5 Board (Note 1)	P _D	100	mW
Thermal Resistance Junction-to-Ambient	R _{θJA}	1250	°C / W
Junction and Storage Temperature Range	T _J , T _{STG}	-55 ~ +150	°C
Lead Solder Temperature – Maximum (10 Second Duration)	T _L	260	°C

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.

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

ELECTRICAL CHARACTERISTICS

(T_A = 25°C unless otherwise noted. V_F = 0.9V max at I_F = 10mA for all types)



PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Working Peak Reverse Voltage	V _{RWM}	-	-	12	V
Maximum Reverse Leakage Current @ V _{RWM}	I _R	-	-	1.0	µA
Breakdown Voltage @ I _T (Note2)	V _{BR}	13.5	-	15.6	V
Test Current	I _T	-	-	1.0	mA
Maximum Reverse Peak Pulse Current (Note3)	I _{PP}	-	-	5.9	A
Clamping Voltage @ I _{PP} (Note3)	V _C	-	-	23.7	V
Peak Power Dissipation (8 X 20 µs)	P _{PK}	-	140	-	W
Max. Capacitance @ V _R =0 and f=1MHz	C	-	30	-	pF

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

CHARACTERISTICS CURVES

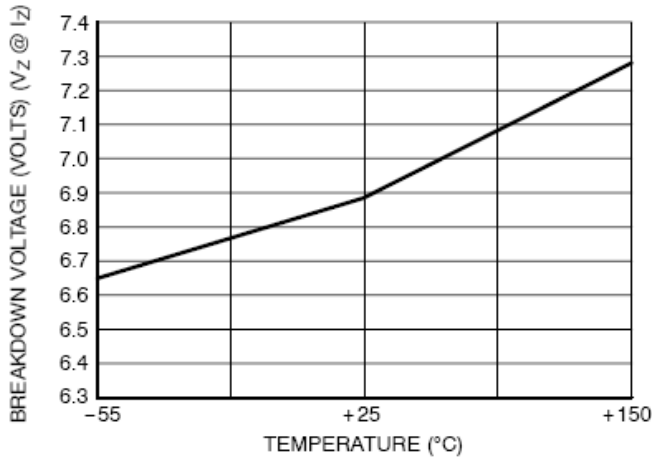


Figure 1. Typical Breakdown Voltage versus Temperature

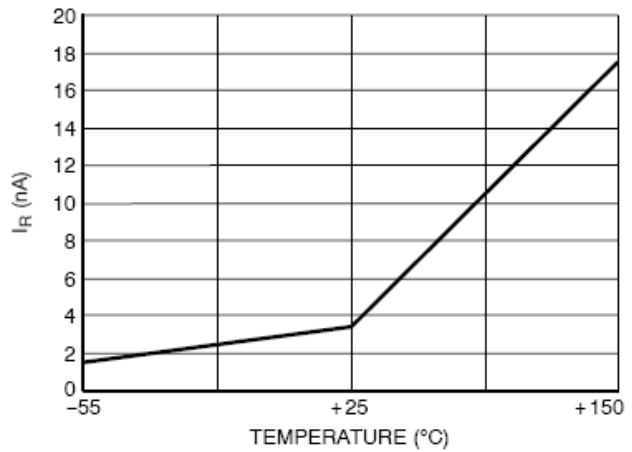


Figure 2. Typical Leakage Current versus Temperature

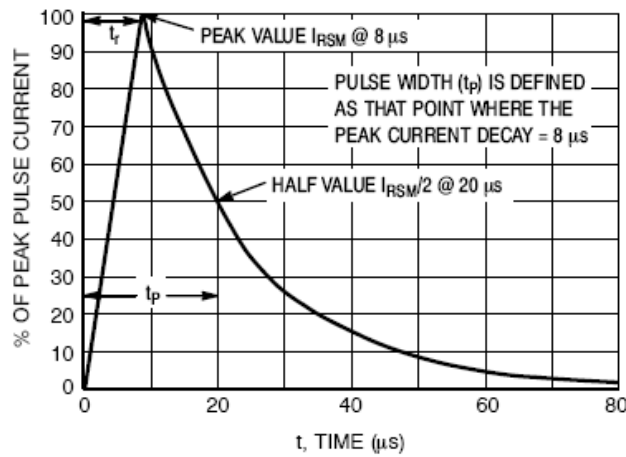


Figure 3. 8 X 20 μ s Pulse Waveform