



SESDFBPxxC Series

TRANSIENT VOLTAGE SUPPRESSORS FOR ESD PROTECTION

General Description

The SESDFBPxxC series are designed to replace multilayer varistors (MLVs) in portable applications such as cell phones, notebook computers, and PDA's. They feature large cross-sectional area junctions for conducting high transient currents, offer desirable electrical characteristics for board level protection, such as fast response time, lower operating voltage, lower clamping voltage and no device degradation when compared to MLVs.

Applications

- Cellular phones handsets and Accessories
- PDA's
- MP3 players
- Digital cameras
- Portable applications
- Mobile telephone

Features

- Equivalent to 0402 package
- 120W peak pulse power
- Small package for use in portable electronics
- Low Leakage current
- These are Pb-Free Devices

Complies with the following standards

IEC61000-4-2

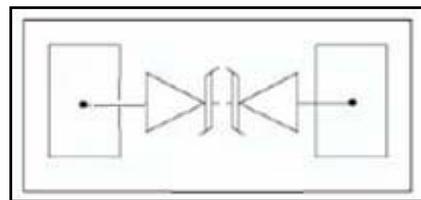
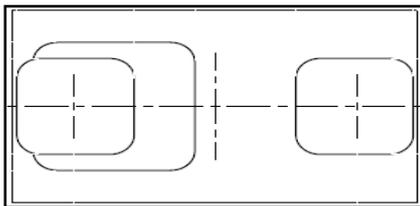
Level 4 15 kV (air discharge)

8 kV (contact discharge)

MIL STD 883E - Method 3015-7 Class 3

25 kV HBM (Human Body Model)

Functional diagram



WBFBP-02C

Absolute Ratings ($T_{amb}=25^{\circ}C$)

Symbol	Parameter	Value	Units
	IEC 61000-4-2 (ESD) Contact	8	kV
P_{PP}	Peak Pulse Power ($t_p = 8/20\mu s$)	120	W
I_{PP}	Peak Pulse Power ($t_p = 8/20\mu s$)	12	A
T_L	Maximum lead temperature for soldering during 10s	260	$^{\circ}C$
T_{stg}	Storage Temperature Range	-55 to +155	$^{\circ}C$
T_j	Maximum junction temperature	-55 to +155	$^{\circ}C$

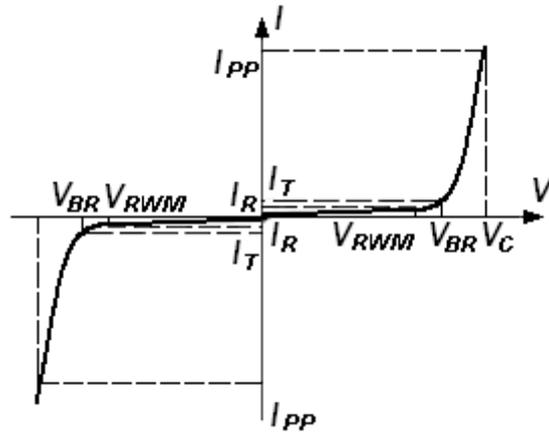


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Electrical Parameter

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



Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified. VF = 0.9V at IF = 10mA

Part Numbers	V_{BR}			I_T	V_{RWM}	I_R	V_F	I_F	C
	Min.	Typ.	Max.				Max.	Typ.	Typ. 0v bias
	V	V	V				V	mA	pF
SESDFBP3V3C	5.1	6.0	6.8	1	3.3	1	-	-	20
SESDFBP05C	6.1	6.6	7.2	1	5.0	1	-	-	15

*Surge current waveform per Figure 1.

- V_{BR} is measured with a pulse test current I_T at an ambient temperature of 25°C.

Typical Characteristics

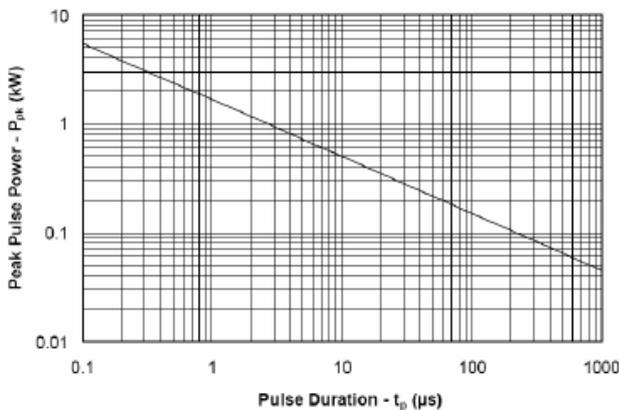


Figure 1. Non-Repetitive Peak Pulse Power versus Pulse Time

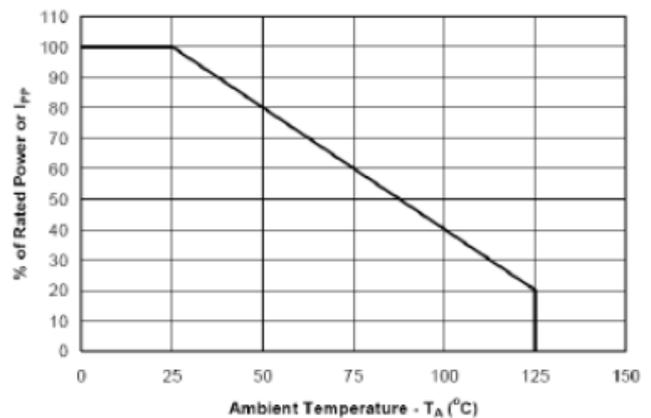


Fig 2. Power Derating Curve



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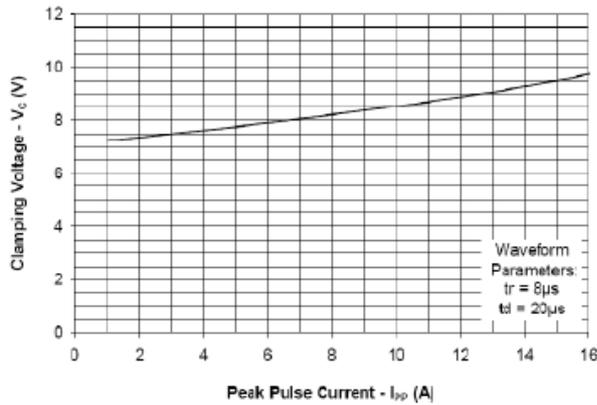


Figure 3. Clamping Voltage vs. Peak Pulse Current

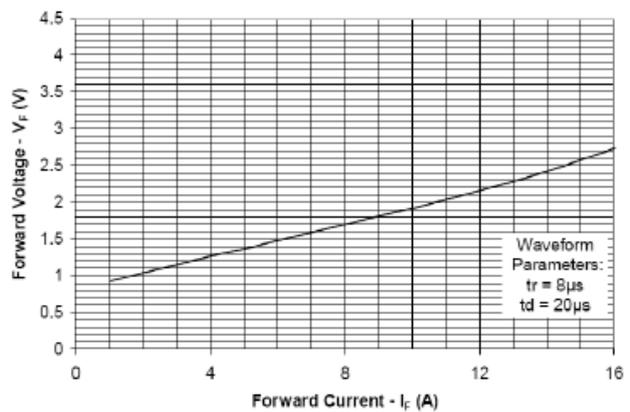


Figure 4. Forward Voltage vs. Forward Current

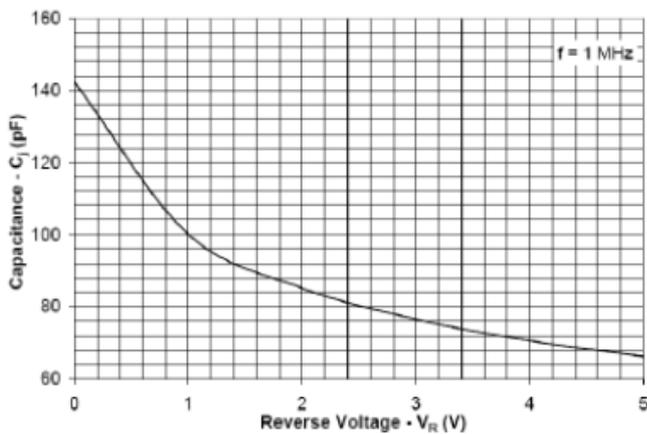


Figure 5. Junction Capacitance vs. Reverse Voltage

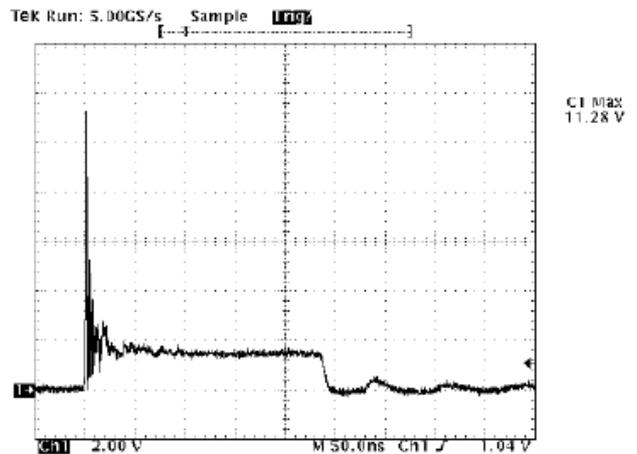


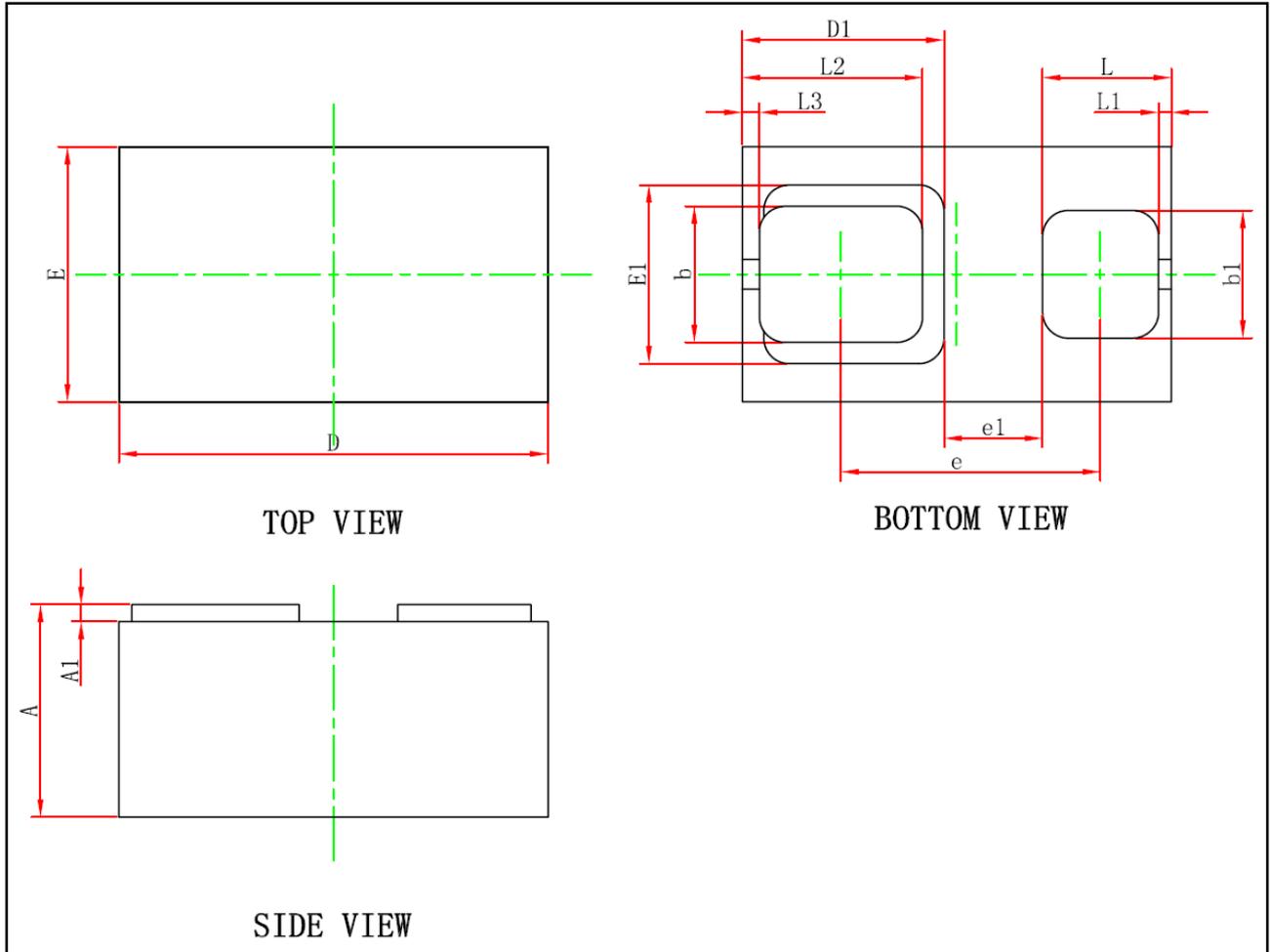
Figure 6. ESD Clamping (8kV Contact per IEC 61000-4-2)



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WBFBP-02C(1.0×0.6×0.5) Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.450	0.550	0.018	0.022
A1	0.010	0.100	0.000	0.004
D	0.950	1.050	0.037	0.041
E	0.550	0.650	0.022	0.026
D1	0.470REF.		0.019REF.	
E1	0.420REF.		0.017REF.	
b	0.270	0.370	0.011	0.015
b1	0.250	0.350	0.010	0.014
e	0.555	0.655	0.022	0.026
e1	0.230REF.		0.009REF.	
L	0.250	0.350	0.010	0.014
L1	0.030REF.		0.001REF.	
L2	0.370	0.470	0.015	0.019
L3	0.040REF.		0.002REF.	