

DESCRIPTION

The ESDFBPxxV ESD protection diode is 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

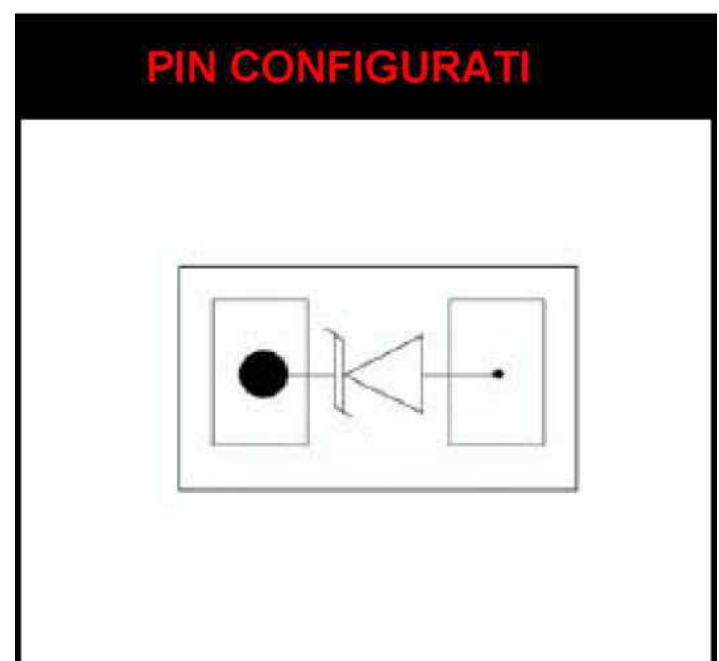
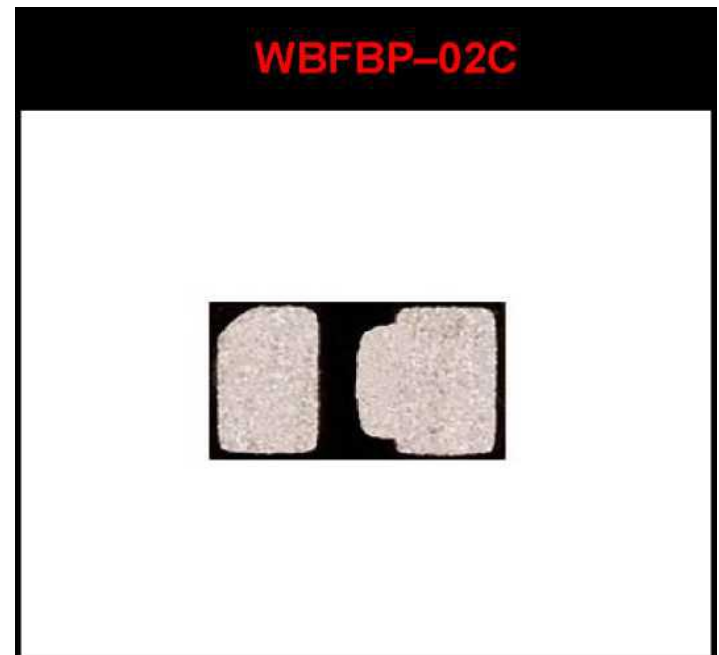
- ✧ Cellular phones handsets and Accessories.
- ✧ PDA's.
- ✧ MP3 players.
- ✧ Digital cameras.
- ✧ Portable applications.
- ✧ mobile telephone.

FEATURES

- ✧ 60W 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).

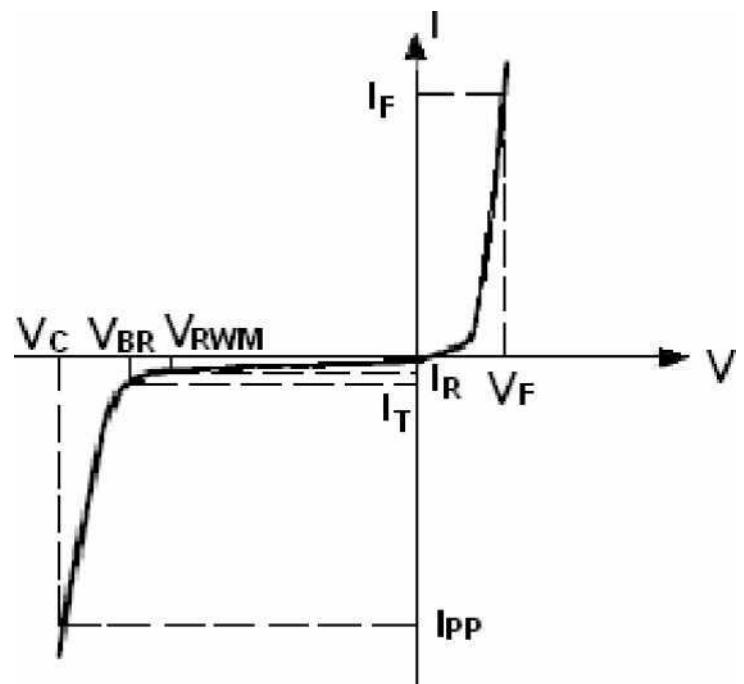


DEVICE CHARACTERISTICS

MAXIMUM RATINGS (@ 25°C Unless Otherwise Specified)			
Symbol Parameter		Value	Unit
V _{PP}	IEC 61000-4-2 (ESD) Contact	±15	kV
P _{pK}	Peak Pulse Power	60	W
I _{pp}	Peak Pulse Power	12	A
T _J , T _{STG}	Junction and Storage Temperature Range	-55 to 150	°C
T _L	Lead Solder Temperature - Maximum (10 Second Duration)	260	°C

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 Currenti @ V_{RWM}
I_T	Test Current
V_{BR}	Breakdown Voltage @ I_T
I_F	Forward Current
V_F	Forward Voltage @ I_F



ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted, VF=0.9V Max. Q IF=10mA for all types)

Part Numbers	VBR			IT	VRWM	IR	C
	Min.	Typ.	Max.				Max. 1 MHZ,0V Bias (note 1)
	V	V	V		V	μA	pF
ESDFBP05V	6.0	6.8	7.2	1	5.0	0.1	30
ESDFBP07V	7.5	8.1	8.6	1	7.0	1	25

Capacitance of one diode at f=1MHz, $V_{RW}=0V$, TA=25°C.

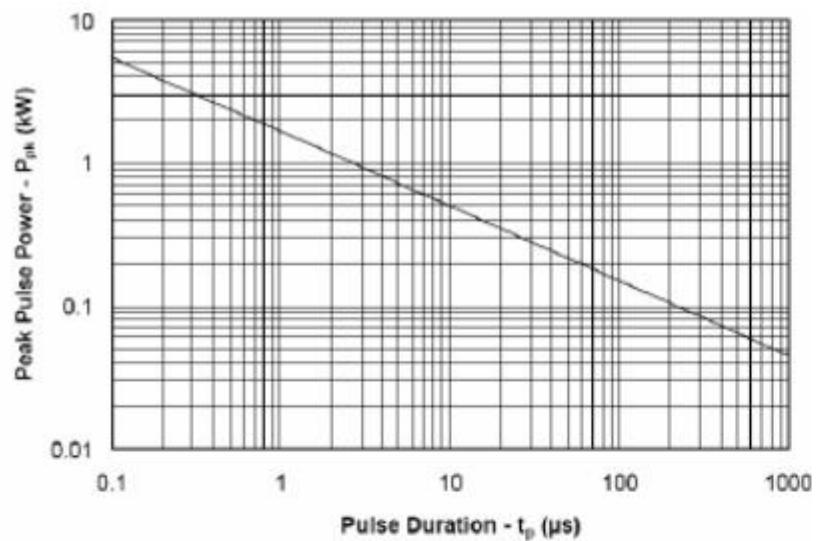
TYPICAL CHARACTERISTICS


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

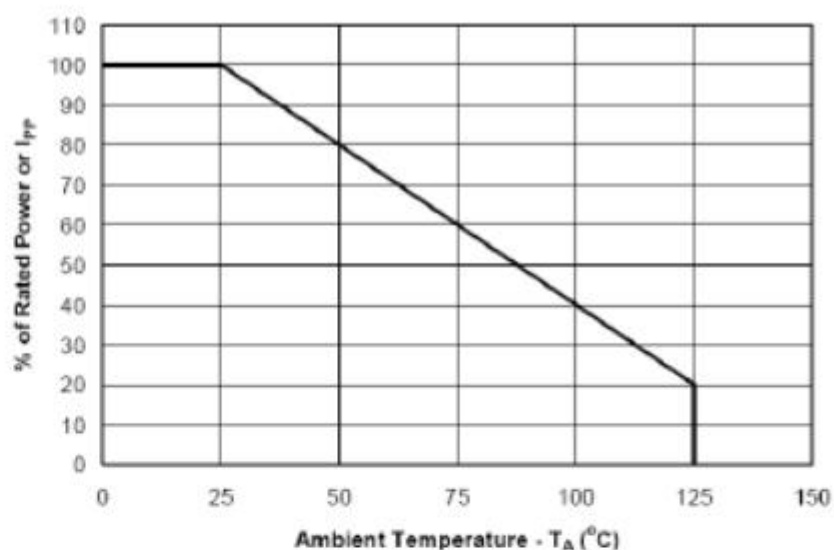


Fig 2. Power Derating Curve

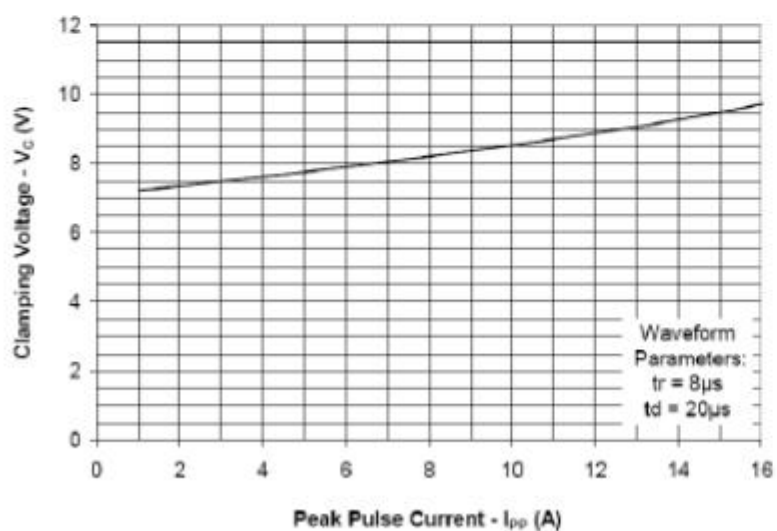


Figure 3. Clamping Voltage vs. Peak Pulse Current

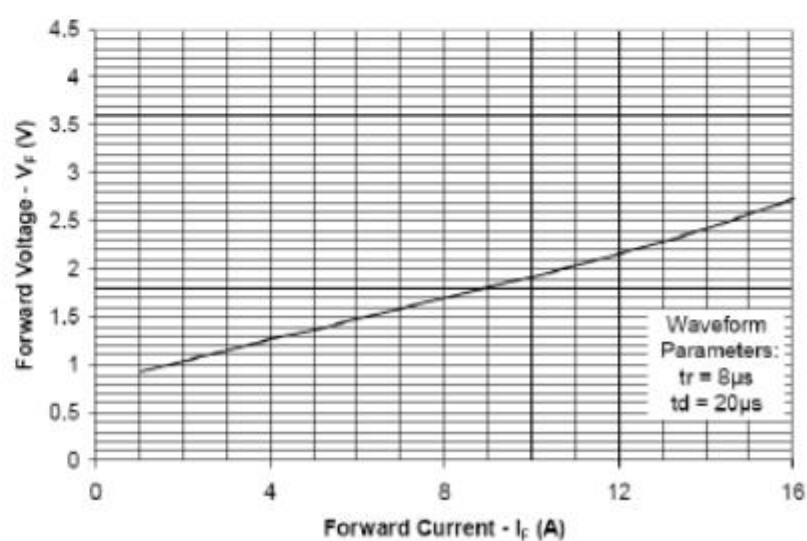


Figure 4. Forward Voltage vs. Forward Current

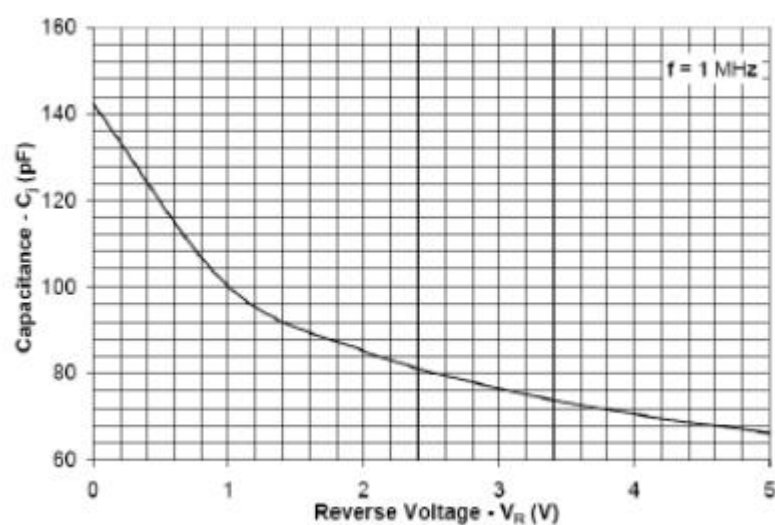


Figure 5. Junction Capacitance vs. Reverse Voltage

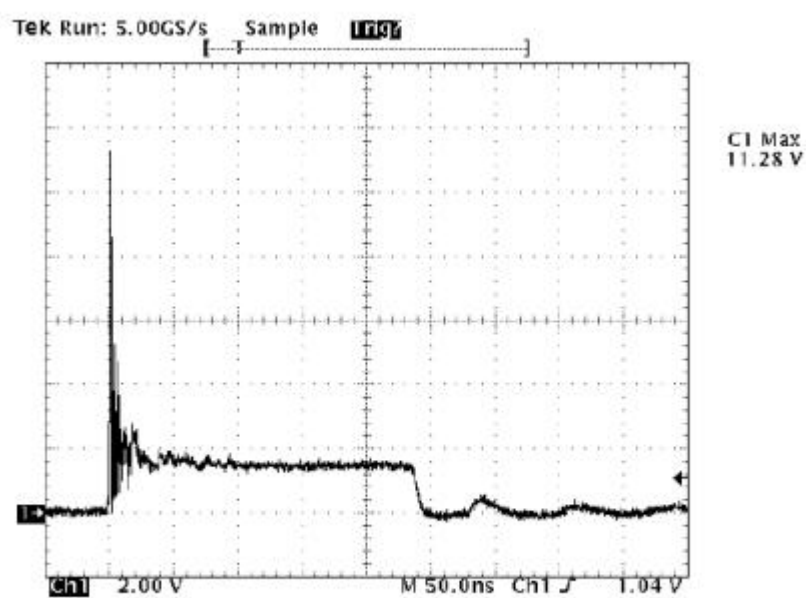
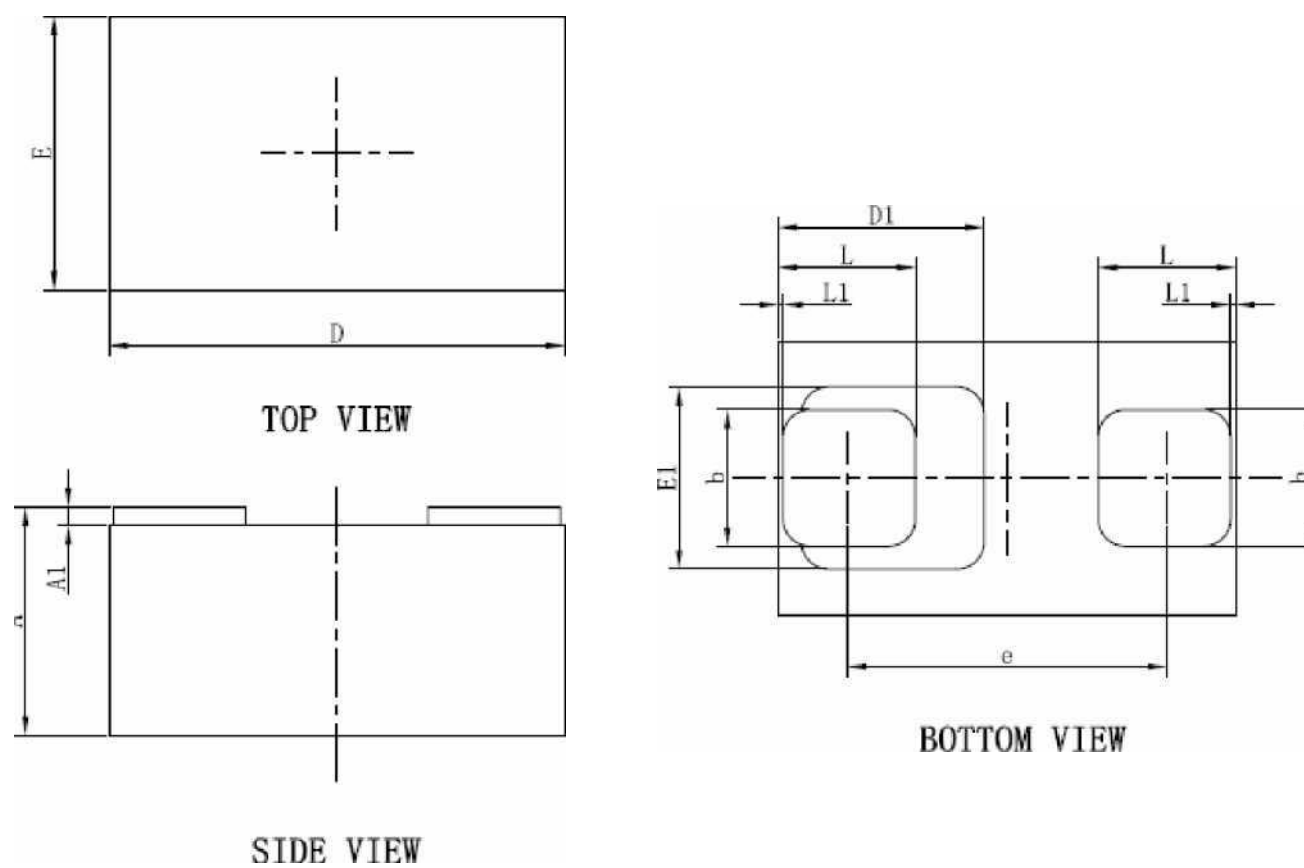


Fig 6. ESD Clamping (8kV Contact per IEC 61000-4-2)

WBFBP-02C MECHANICAL DATA



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.450	0.550	0.018	0.022
A1	0.010	0.070	0.000	0.003
D	0.950	1.050	0.037	0.041
E	0.550	0.650	0.022	0.026
D1	0.450REF.		0.018REF.	
E1	0.400REF.		0.016REF.	
b	0.275	0.325	0.011	0.013
e	0.675	0.725	0.027	0.029
L	0.275	0.325	0.011	0.013
L1	0.010REF.		0.000REF.	

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