



SESDFBP05C

Single Line ESD Protection Diode

### General Description

The SESDFBP05C 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

- Equivalent to 0402 package
- 120W peak pulse power
- Small package for use in portable electronics
- Standoff voltage : 5V
- Low leakage current
- These are Pb-Free Devices

### Complies with the following standards

IEC61000-4-2

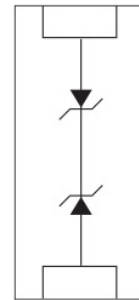
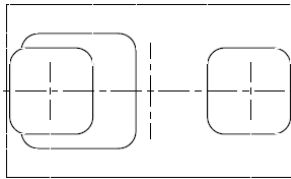
Level 4 15 kV (air discharge)

8 kV(contact discharge)

MIL STD 883E - Method 3015-7 Class 3

25 kV HBM (Human Body Model)

### Functional diagram



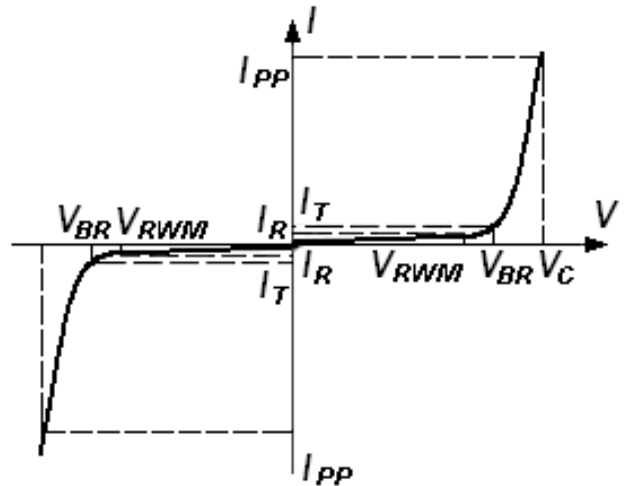
WBFBP-02L

### Maximum Ratings

Symbol	Parameter	Value	Unit
	IEC 61000-4-2 (ESD) Contact	8	kV
$P_{PK}$	Peak Pulse Power	120	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**

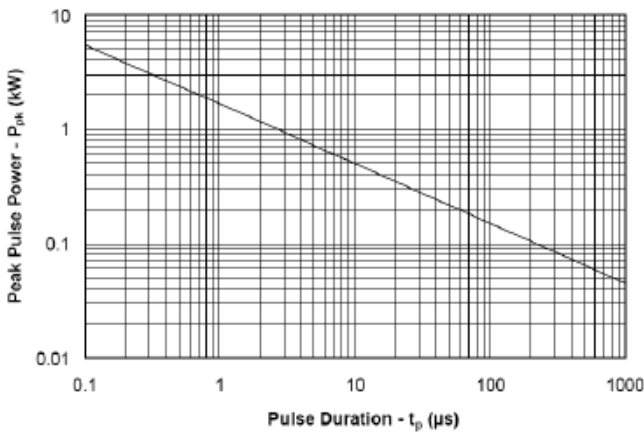
Symbol	Parameter
$I_{PP}$	Maximum Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_{PP}$
$V_{RWM}$	Working Peak Reverse Voltage
$I_R$	Maximum Reverse Leakage Current @ $V_{RWM}$
$I_T$	Test Current
$V_{BR}$	Breakdown Voltage @ $I_T$



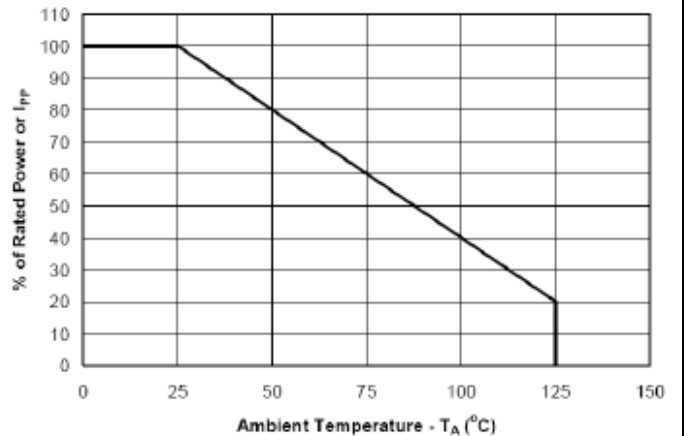
**Electrical Characteristics** ( $T_A=25^\circ\text{C}$  unless otherwise noted,  $V_F=0.9\text{V}$  Max. @  $I_F=10\text{mA}$  for all types)

Part Numbers	$V_{BR}$			$I_T$	$V_{RWM}$	$I_R$	C
	Min.	Typ.	Max.				
	V	V	V				mA
SESDFBP05C	6.1	6.6	7.2	1	5.0	1	10

**Typical Characteristics**



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



**Fig 2. Power Derating Curve**

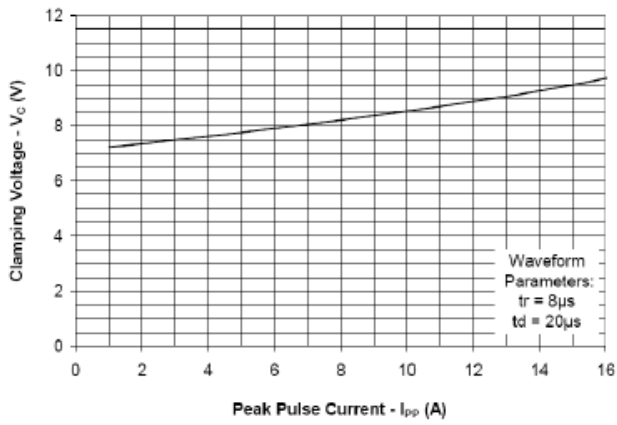


Figure 3. Clamping Voltage vs. Peak Pulse Current

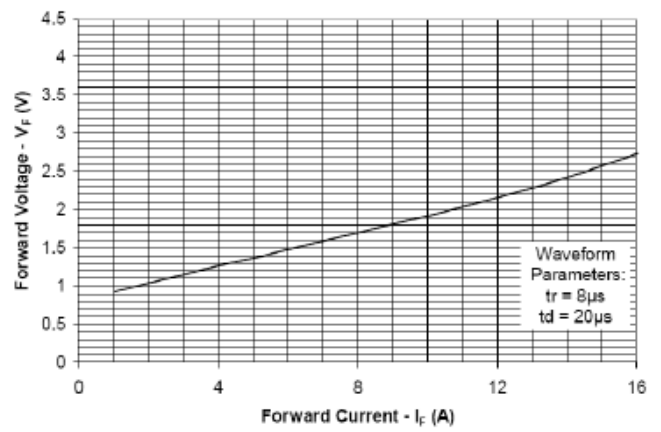


Figure 4. Forward Voltage vs. Forward Current

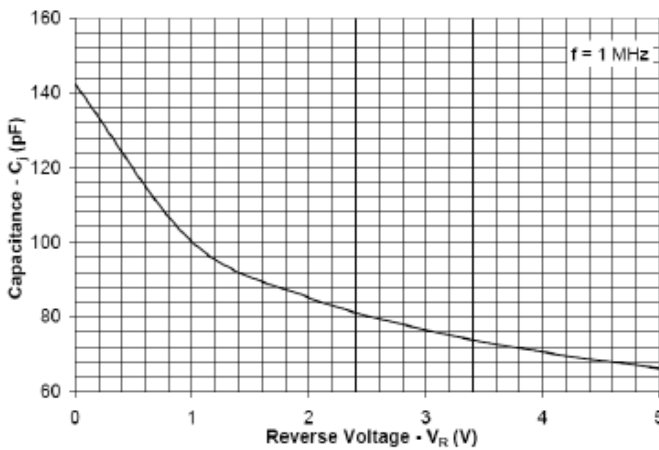


Figure 5. Junction Capacitance vs. Reverse Voltage

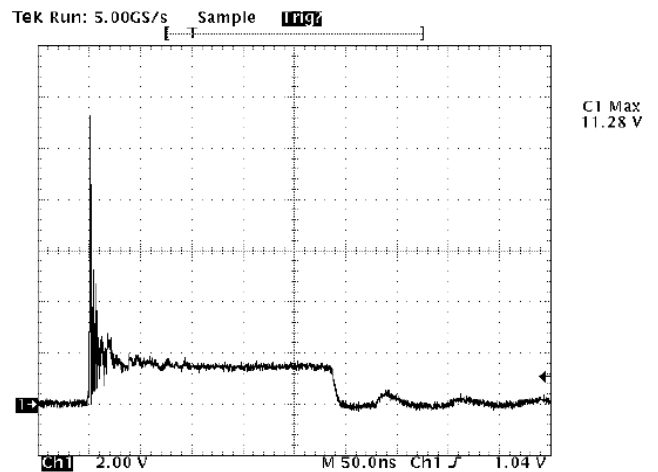
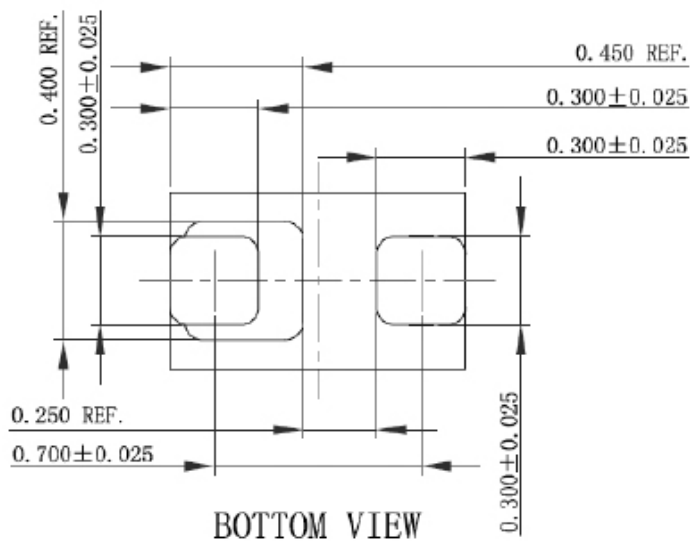


Fig 6. ESD Clamping (8kV Contact per IEC 61000-4-2)

WBFBP-02L Mechanical Data



TOP VIEW



BOTTOM VIEW