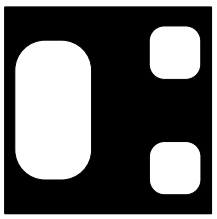
WE05M03B1

Transient Voltage Suppressor

Features

- Small Body Outline Dimensions:
  0.037″ x 0.037″ (0.95mm x 0.95 mm)
- Low Body Height: 0.019″ (0.50 mm) Max
- Protects one I/O or power line
- Working Voltage: 5 V
- Low Leakage Current
- Response Time is Typically < 1 ns



FBP3D
(Bottom View)

IEC COMPATIBILITY (EN61000-4)

- IEC 61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)

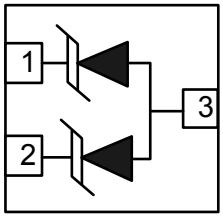
Mechanical Characteristics

- JEDEC FBP3D package
- Molding compound flammability rating:
  UL 94V-0
- Marking: Marking Code
- Packaging: Tape and Reel per EIA 481
- RoHS/WEEE Compliant

Applications

- Cellular Handsets & Accessories
- Personal Digital Assistants (PDAs)
- Notebooks & Handhelds
- Portable Instrumentation
- Digital Cameras
- MP3 Players

Schematic & PIN Configuration

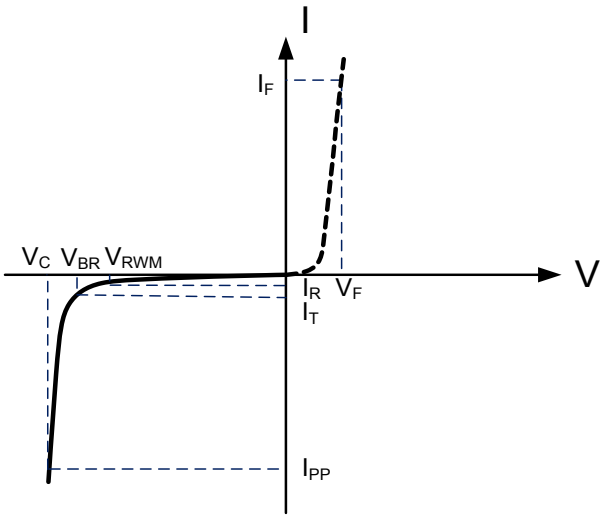


Unidirectional

Absolute Maximum Rating			
Rating	**Symbol**	**Value**	**Units**
Peak Pulse Power @ 8/20μs	P_D	100	W
Electrostatic discharge Voltage (See Note1,2)	V_{ESD}	8KV (contact)	V
		15KV (air)	
Operating Temperature	T_J	-55 to + 150	℃
Storage Temperature	T_{STG}	-55 to +150	℃

Electrical Parameters (T=25℃)

Symbol	Parameter
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_F	Forward Current
V_F	Forward Voltage @ I_F



Electrical Characteristics

WE05M03B1						
Parameter	**Symbol**	**Conditions**	**Minimum**	**Typical**	**Maximum**	**Units**
Reverse Stand-Off Voltage	V_{RWM}				5.0	V
Reverse Breakdown Voltage	V_{BR}	I_T=1mA	6.0			V
Reverse Leakage Current	I_R	V_{RWM}=5V, T=25°C			1	μA
Junction Capacitance	C_j	V_R = 0V, f = 1MHz		0.5		pF
Clamping Voltage (See Note3)	Vc	8KV (contact)	See Figure 3.			V

Note1: ESD Pulse Waveform according to IEC 61000-4-2, see Table1 and Figure1.

Note2: ESD Clamping Voltage see Figure2 and 3.

Note3: The clamping Voltage data is taken with a 100x attenuator.

Typical Characteristics

Table 1. IEC 61000-4-2 Discharge Parameters

Level	First Peak Current (A)	Peak Current at 30 ns (A)	Peak Current at 60 ns (A)	Test Voltage (Contact Discharge) (kV)	Test Voltage (Air Discharge) (kV)
1	7.5	4	2	2	2
2	15	8	4	4	4
3	22.5	12	6	6	8
4	30	16	8	8	15

Figure 1. IEC 61000-4-2 Waveform

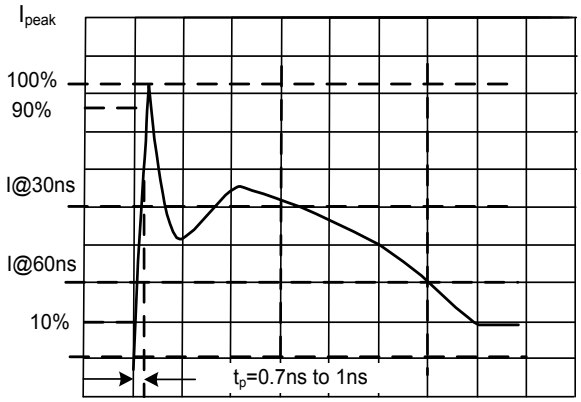


Figure 2. ESD Clamping Voltage Screenshot Positive 8 kV contact per IEC 61000-4-2

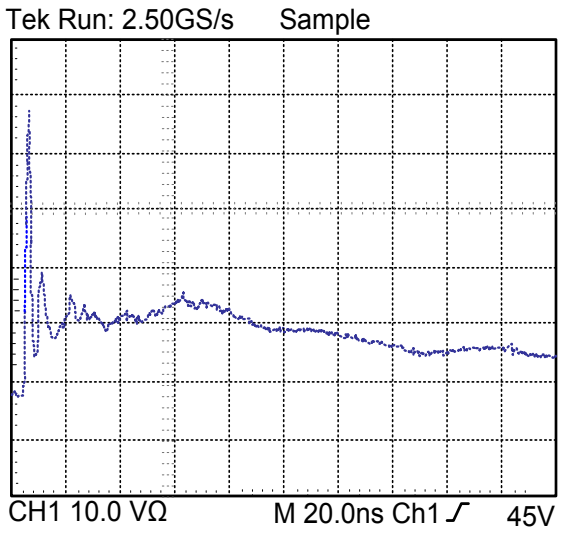
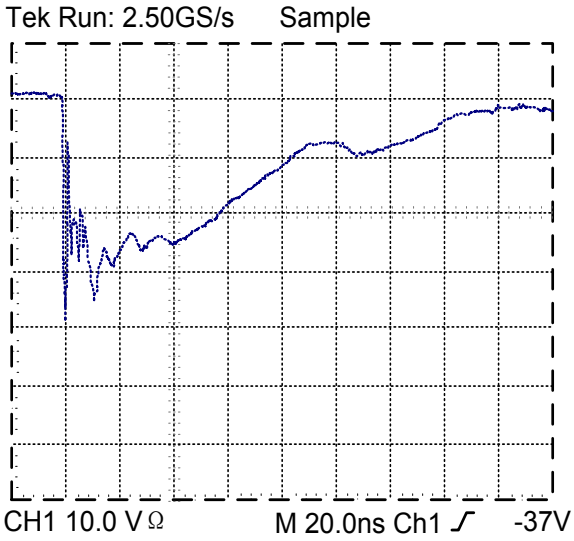
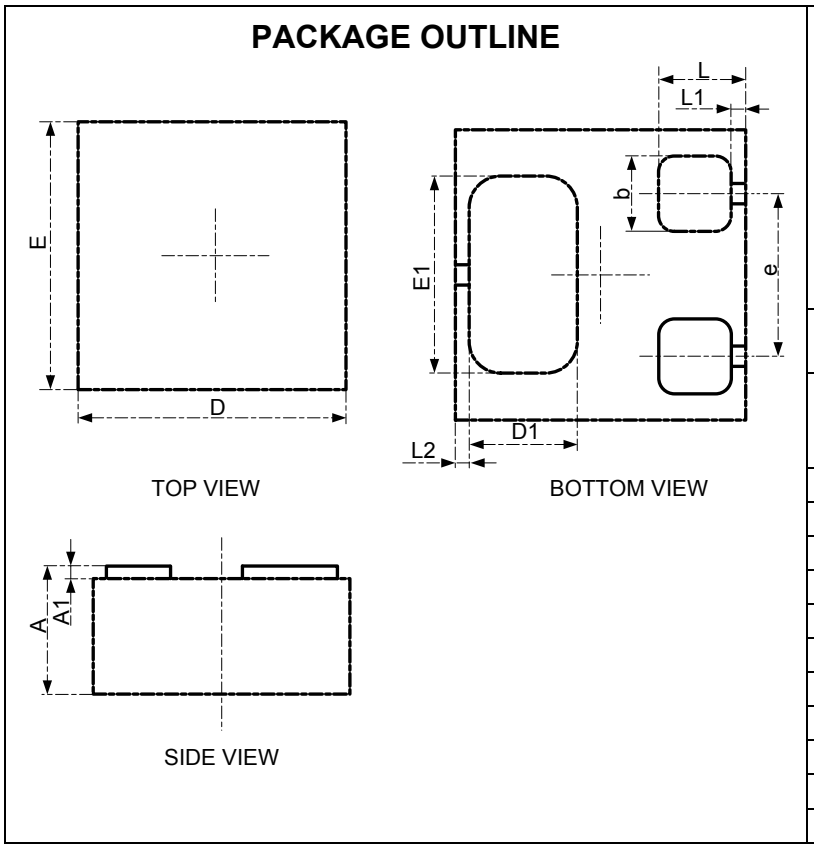
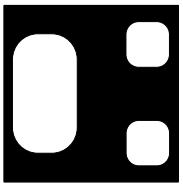


Figure 3. ESD Clamping Voltage Screenshot Negative 8 kV contact per IEC 61000-4-2



Outline Drawing – FBP3D





DIMENSIONS				
SYMBOL	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	0.450	0.550	0.118	0.022
A1	0.010	0.070	0.000	0.003
D	0.950	1.050	0.037	0.041
E	0.950	1.050	0.037	0.041
D1	0.350REF.		0.014REF.	
E1	0.680REF.		0.027REF.	
b	0.210	0.310	0.008	0.012
e	0.510	0.610	0.020	0.024
L	0.250	0.350	0.010	0.014
L1	0.000	0.050	0.000	0.002
L2	0.000	0.050	0.000	0.002

Marking Codes

Part Number	**WE05M03B1**
Marking Code