

WE05D9BC

Transient Voltage Suppressor

Features

- Small Body Outline Dimensions:
0.039" x 0.024" (1.0 mm x 0.60 mm)
- Low Body Height: 0.06" (0.40 mm) Max
- Protects one I/O or power line
- Working Voltage: 5 V
- Low Leakage Current
- Response Time is Typically < 1 ns



IEC COMPATIBILITY (EN61000-4)

- IEC 61000-4-2 (ESD) $\pm 15\text{kV}$ (air), $\pm 8\text{kV}$ (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)

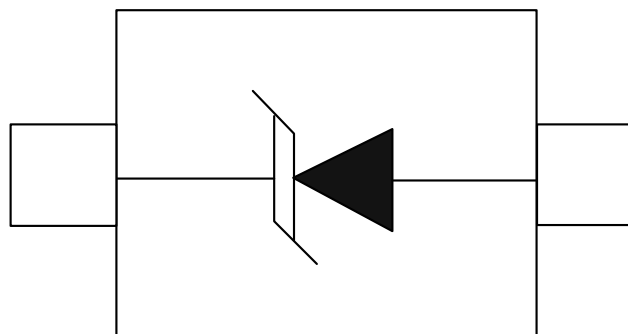
Mechanical Characteristics

- JEDEC SOD-923 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

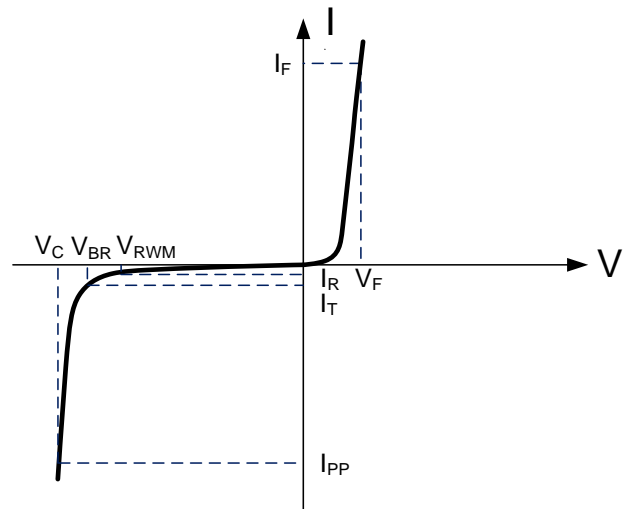


SOD-923 (Top View)

Absolute Maximum Rating			
Rating	Symbol	Value	Units
Electrostatic discharge Voltage (See Note1 ,2)	V_{ESD}	8KV (contact)	volts
		15KV (air)	
Operating Temperature	T_J	-55 to + 150	°C
Storage Temperature	T_{STG}	-55 to +150	°C

Electrical Parameters (T=25°C)

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

WE05D9BC						
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	$V_R = 0V, f = 1MHz$		6.5		pF
Clamping Voltage (See Note3)	V_C	8KV (contact)	See Figure3			V

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

Note2: ESD tests Setup see Figure2.

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

Typical Characteristics

Table 1: IEC 61000-4-2 Spec.

IEC 61000-4-2 Spec.

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

Figure 1: IEC61000-4-2 Waveform

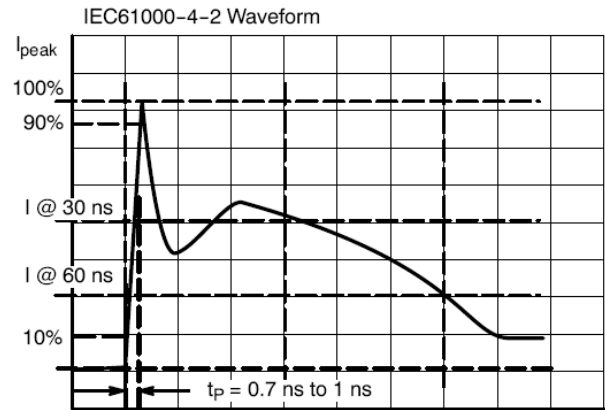


Figure 2: ESD Test Setup

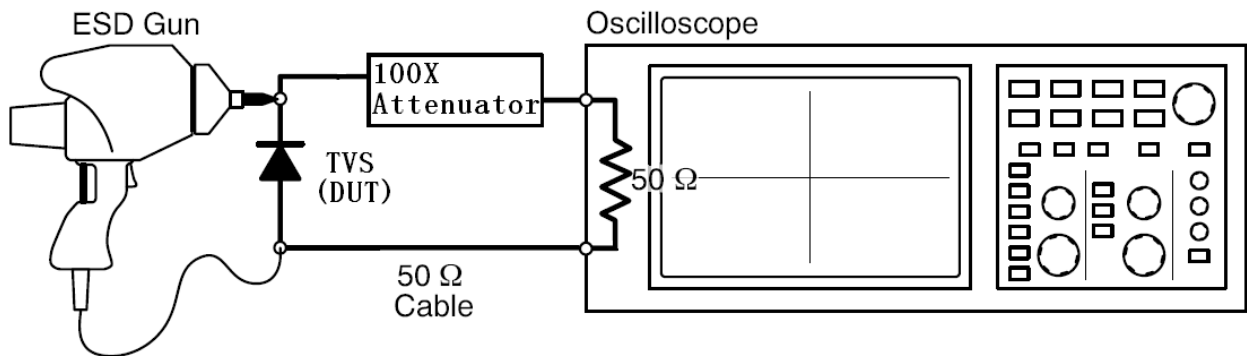
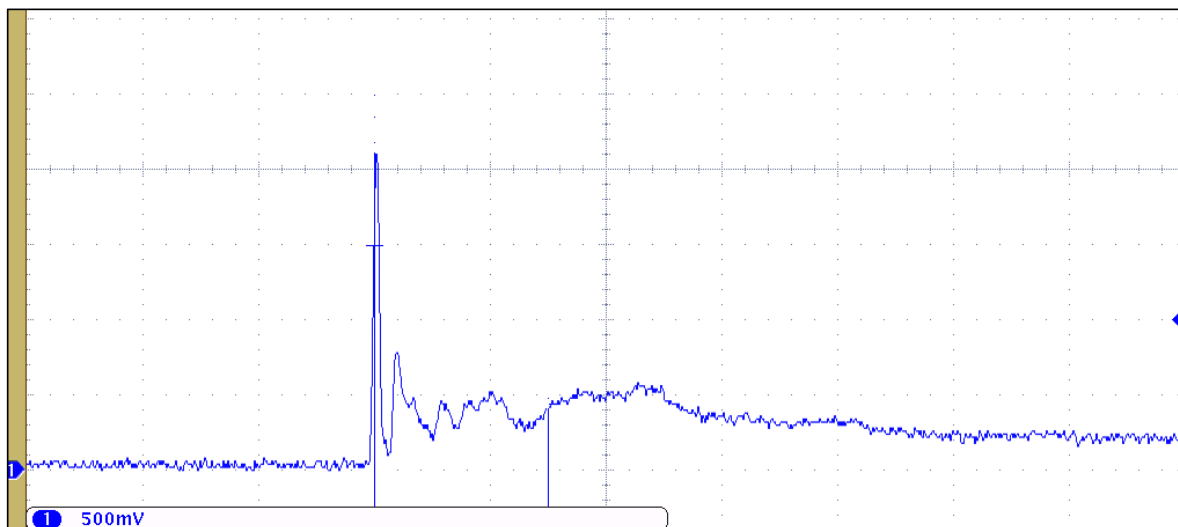
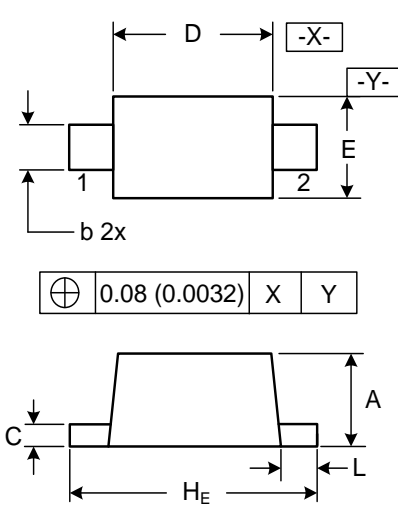
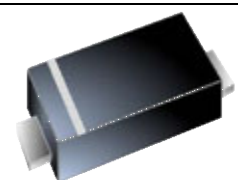


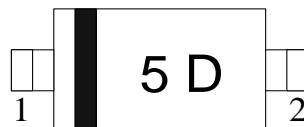
Figure 3: ESD Clamping(8kV Contact per IEC 61000-4-2)



Outline Drawing – SOD-923

<p style="text-align: center;">PACKAGE OUTLINE</p>  <p style="text-align: center;"> ⊕ 0.08 (0.0032) X Y </p> <p style="text-align: center;">DIMENSIONS: MILLIMETERS</p>	<div style="text-align: center;">  <p>SOD-923</p> </div> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th colspan="5" style="text-align: center;">DIMENSIONS</th> </tr> <tr> <th rowspan="2" style="text-align: center;">SYMBOL</th> <th colspan="2" style="text-align: center;">MILLIMETER</th> <th colspan="2" style="text-align: center;">INCHES</th> </tr> <tr> <th style="text-align: center;">MIN</th> <th style="text-align: center;">MAX</th> <th style="text-align: center;">MIN</th> <th style="text-align: center;">MAX</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">A</td> <td style="text-align: center;">0.36</td> <td style="text-align: center;">0.43</td> <td style="text-align: center;">0.014</td> <td style="text-align: center;">0.017</td> </tr> <tr> <td style="text-align: center;">b</td> <td style="text-align: center;">0.15</td> <td style="text-align: center;">0.25</td> <td style="text-align: center;">0.006</td> <td style="text-align: center;">0.010</td> </tr> <tr> <td style="text-align: center;">C</td> <td style="text-align: center;">0.07</td> <td style="text-align: center;">0.17</td> <td style="text-align: center;">0.003</td> <td style="text-align: center;">0.007</td> </tr> <tr> <td style="text-align: center;">D</td> <td style="text-align: center;">0.75</td> <td style="text-align: center;">0.85</td> <td style="text-align: center;">0.030</td> <td style="text-align: center;">0.033</td> </tr> <tr> <td style="text-align: center;">E</td> <td style="text-align: center;">0.55</td> <td style="text-align: center;">0.65</td> <td style="text-align: center;">0.026</td> <td style="text-align: center;">0.028</td> </tr> <tr> <td style="text-align: center;">H_E</td> <td style="text-align: center;">0.95</td> <td style="text-align: center;">1.05</td> <td style="text-align: center;">0.037</td> <td style="text-align: center;">0.041</td> </tr> <tr> <td style="text-align: center;">L</td> <td style="text-align: center;">0.05</td> <td style="text-align: center;">0.15</td> <td style="text-align: center;">0.002</td> <td style="text-align: center;">0.006</td> </tr> </tbody> </table> <div style="margin-top: 10px;"> <p>Notes</p> <ol style="list-style-type: none"> 1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982. 2. CONTROLLING DIMENSION: MILLIMETERS. 3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL. </div>	DIMENSIONS					SYMBOL	MILLIMETER		INCHES		MIN	MAX	MIN	MAX	A	0.36	0.43	0.014	0.017	b	0.15	0.25	0.006	0.010	C	0.07	0.17	0.003	0.007	D	0.75	0.85	0.030	0.033	E	0.55	0.65	0.026	0.028	H _E	0.95	1.05	0.037	0.041	L	0.05	0.15	0.002	0.006
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Marking Codes



Pin Style: 1. Cathode 2. Anode