

WE05M3LC

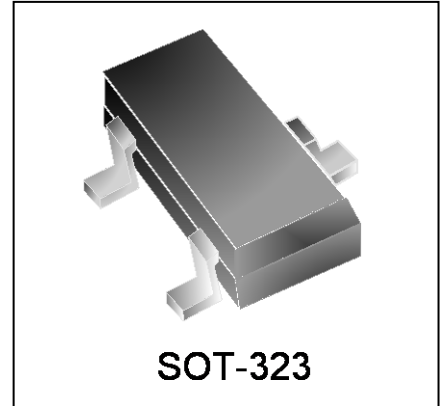
Transient Voltage Suppressor

Features

- Protects one I/O or power line
- Ultra-Low capacitance ($< 1.0\text{pF}$)
- Low Clamping Voltage
- Working Voltage: 5V
- Low Leakage Current
- Response Time is Typically $< 1\text{ ns}$

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)



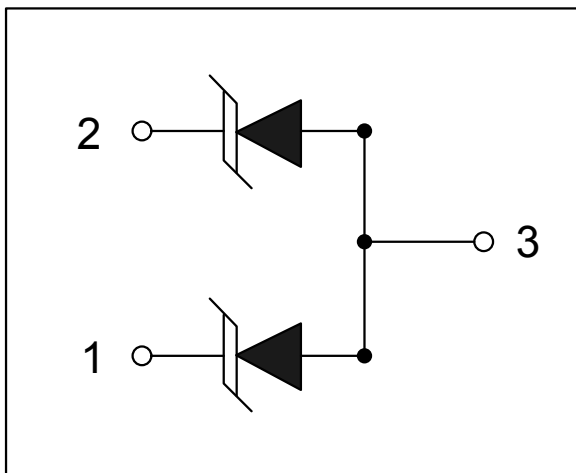
Mechanical Characteristics

- SOT-323 package
- Molding compound flammability rating: UL 94V-0
- Marking: Marking Code
- Packaging: Tape and Reel per EIA 481
- RoHS/WEEE Compliant

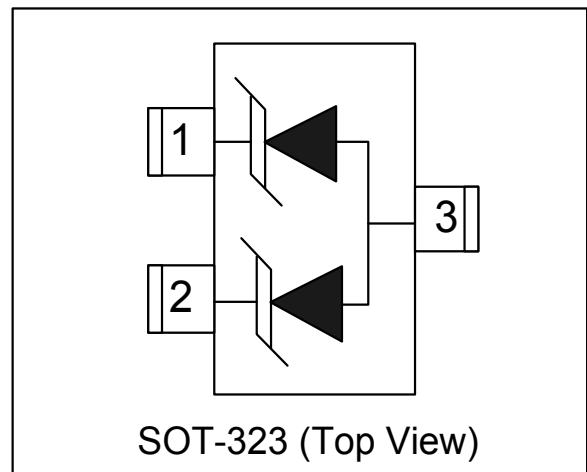
Applications

- Laptop Computers
- Cellular Phones
- Digital Cameras
- Personal Digital Assistants (PDAs)

Circuit Diagram



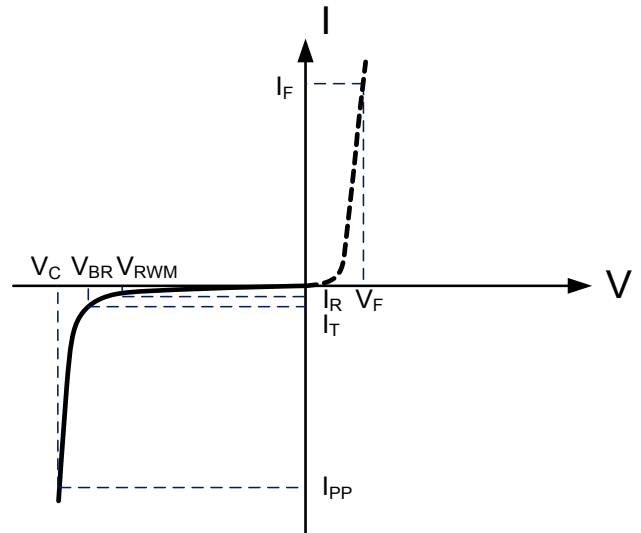
Schematic & PIN Configuration



Absolute Maximum Rating			
Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu s$)	P_{PP}	100	Watts
Electrostatic discharge Voltage (See Note1 ,2)	V_{ESD}	8KV (contact)	Volts
		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

WE05M3LC						
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V_{RWM}				5	V
Reverse Breakdown Voltage	V_{BR}	$I_T = 1mA$	6.0			V
Reverse Leakage Current	I_R	$V_{RWM} = 5V$, $T = 25^\circ C$			1	μA
Junction Capacitance	C_j	$V_R = 0V$, $f = 1MHz$ Pin 1 to Pin 2		1.0	2.0	pF
		$V_R = 0V$, $f = 1MHz$ Pin 1 or 2 to Pin 3		0.6	1.0	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 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

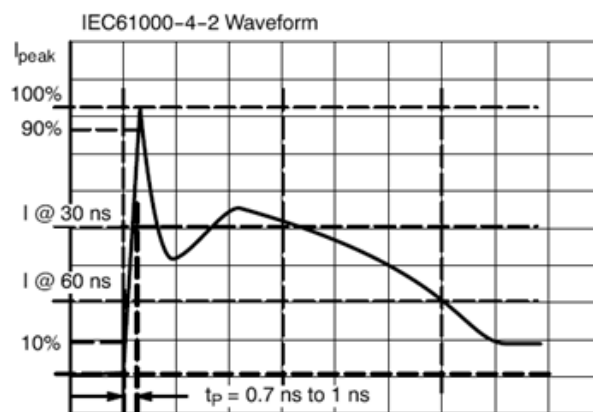


Figure 2 ESD Clamping Voltage Screenshot Positive 8 kV contact per IEC 61000-4-2

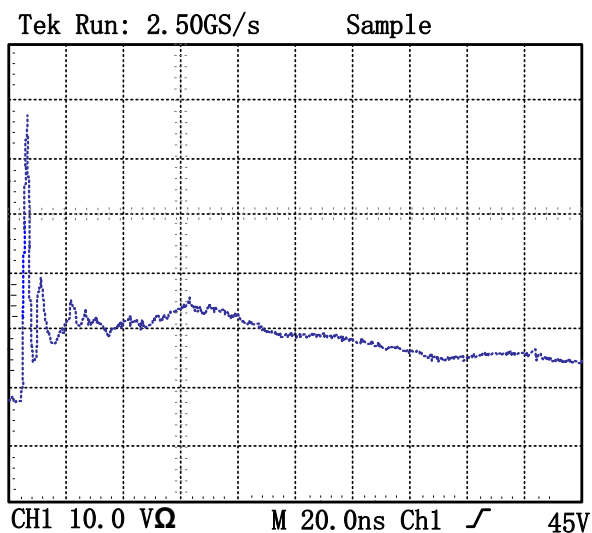
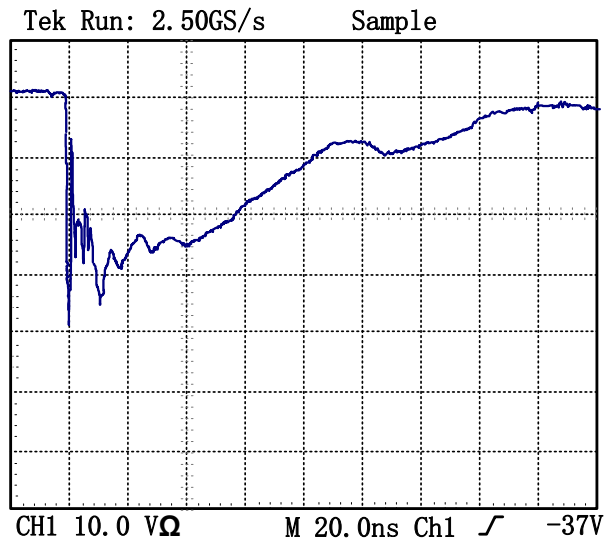
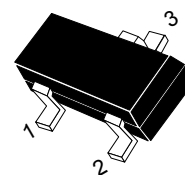
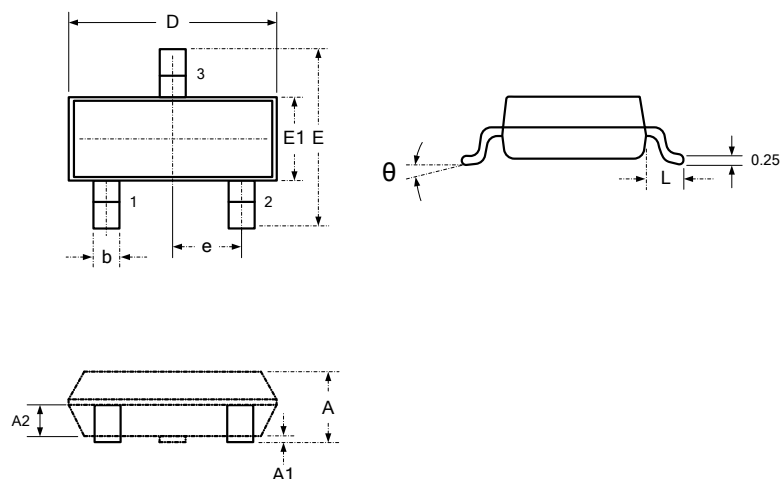


Figure 3 ESD Clamping Voltage Screenshot Negative 8 kV contact per IEC 61000-4-2



Outline Drawing – SOT-323

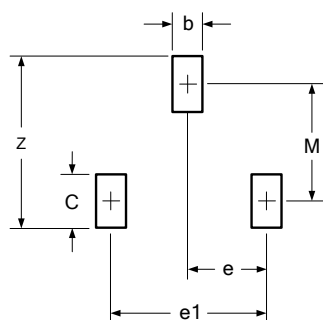
PACKAGE OUTLINE



SOT-323

DIMENSIONS

SYMBOL	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
D	2.000	2.200	0.079	0.087
b	0.200	0.400	0.008	0.016
E	1.150	1.350	0.045	0.053
E1	1.200	1.400	0.047	0.055
e	0.650TYP		0.026TYP	
L	0.525 REF		0.021 REF	
θ	0	8°	0	8°



DIMENSIONS		
DIM	INCHES	MILLIMETERS
M	0.072	1.80
C	0.036	0.9
Z	0.108	2.7
e	0.026	0.65
e1	0.052	1.30
b	0.016 BSC	0.4 BSC

Notes

1. Dimensioning and tolerances per ANSI Y14.5M, 1985.
2. Controlling Dimension: Inches
3. Pin 3 is the cathode (Unidirectional Only).
4. Dimensions are exclusive of mold flash and metal burrs.

Marking Codes

Part Number	WE05M3LC
Marking Code	M3L