

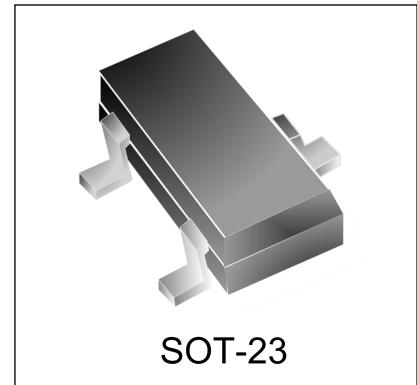


Features

- Unidirectional & Bidirectional Configurations
- Protects one I/O or power line
- Low Clamping Voltage
- Ultra Low Capacitance (< 1.0pF)
- Working Voltage: 5V
- 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)



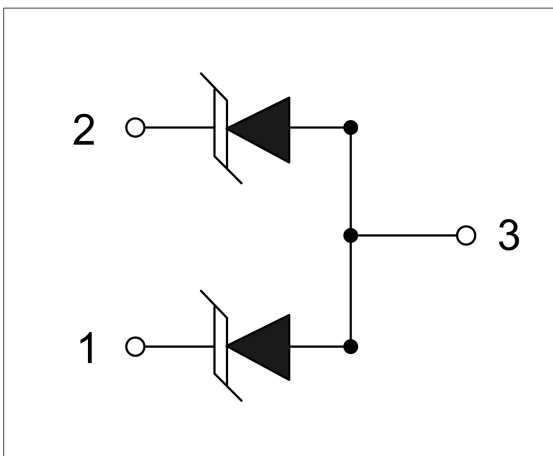
Mechanical Characteristics

- SOT-23 package
- Molding compound flammability rating: UL 94V-0
- Marking: Marking Code
- Packaging: Tape and Reel per EIA 481
- RoHS Compliant

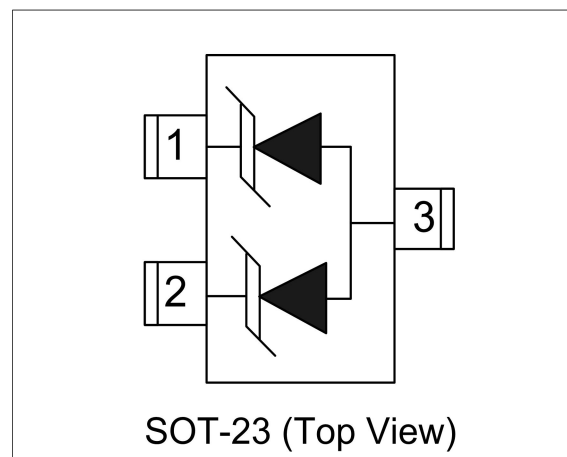
Applications

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

Circuit Diagram



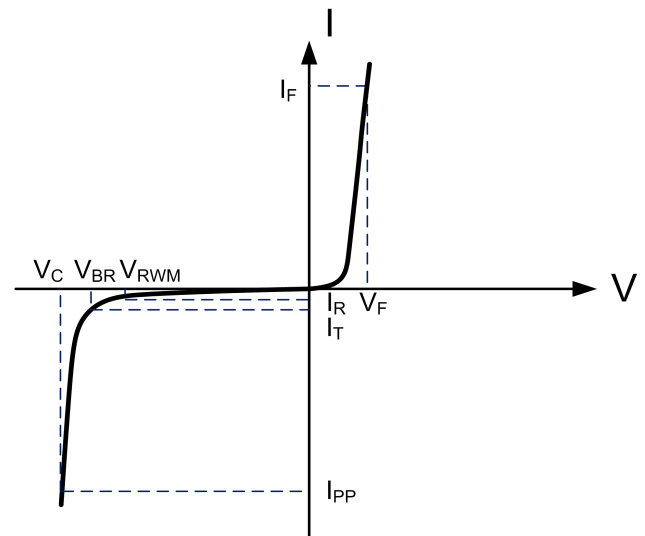
Schematic & PIN Configuration



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	°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

DW05MLC-E						
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		0.6	1.0	pF
		$V_R = 0V, f = 1MHz$ Pin 1 or 2 to Pin 3		1.0	2.0	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.

Ver.: A1 2019-02-22 WA



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

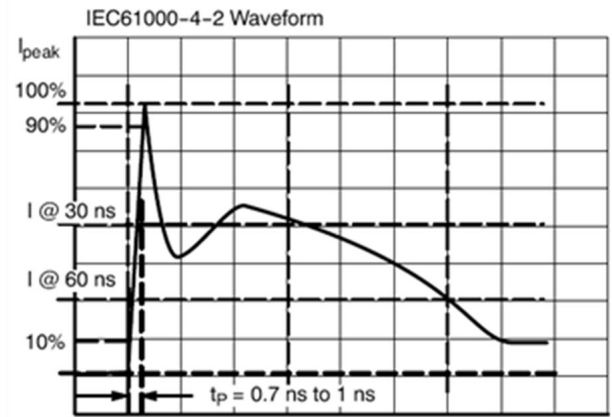


Figure 2 ESD Clamping Voltage Screenshot Positive 8 kV contact per IEC 61000-4-2

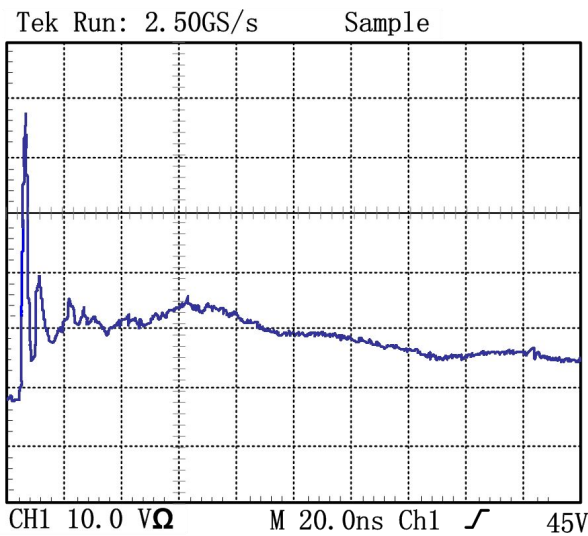
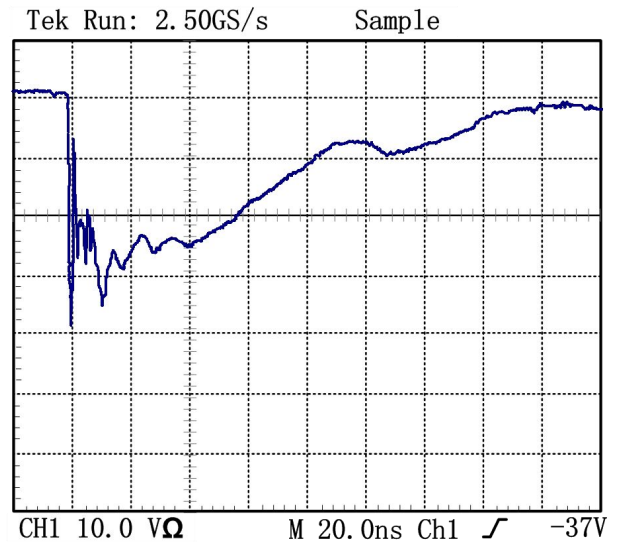
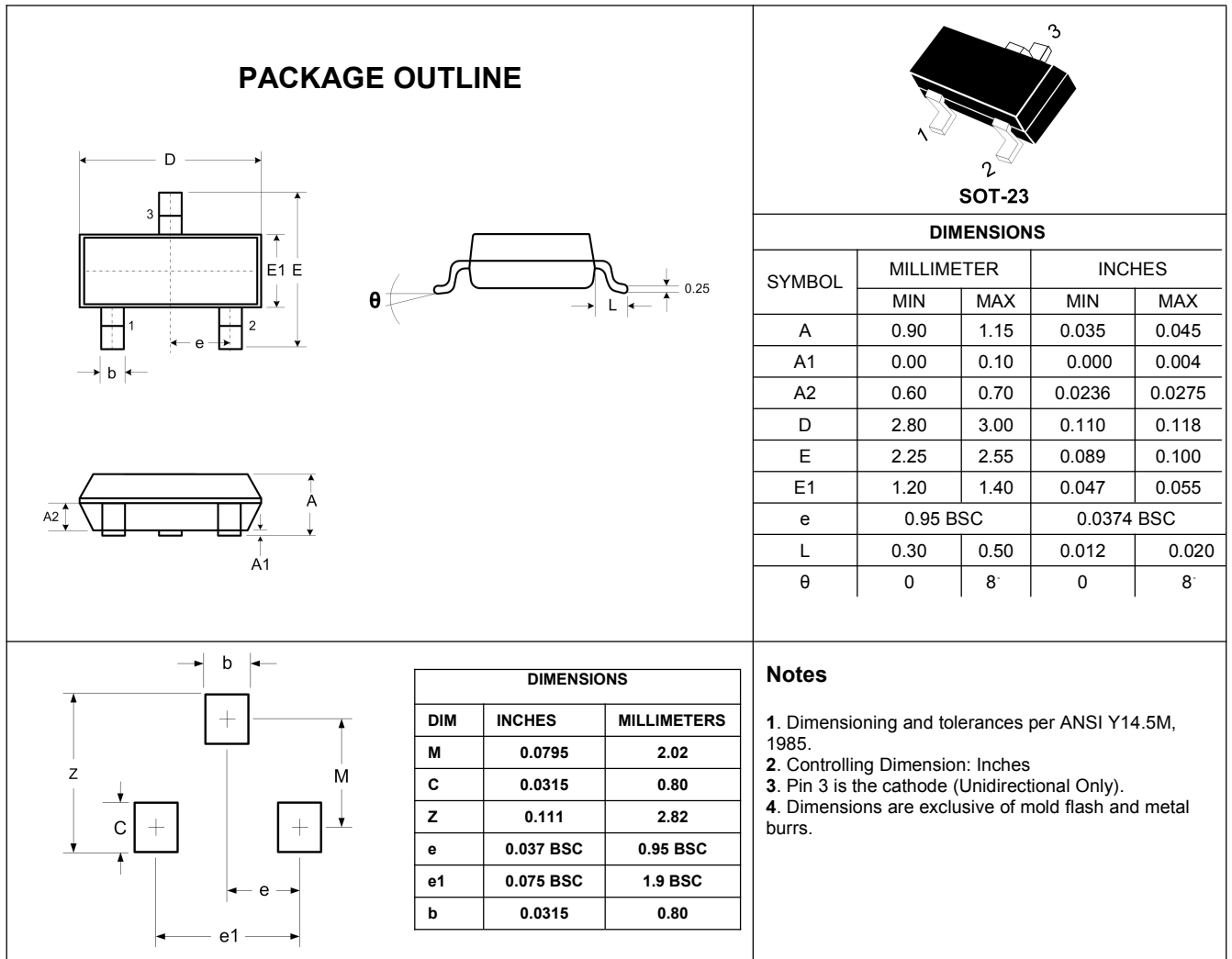


Figure 3 ESD Clamping Voltage Screenshot Negative 8 kV contact per IEC 61000-4-2



Outline Drawing – SOT-23



Marking Codes

Part Number	DW05MLC-E
Marking Code	5ML

Package Information

Qty: 3k/Reel