

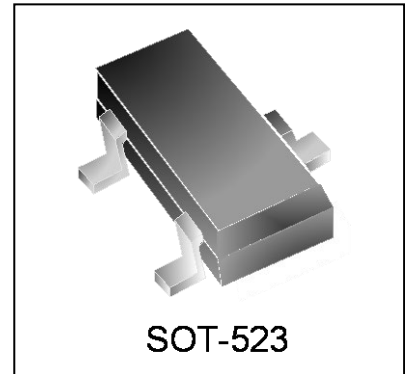


Features

- Protects two I/O line
- Ultra-Low capacitance (< 1.5pF)
- Low Clamping Voltage
- Working Voltage: 5V
- Low Leakage Current
- Response Time is Typically < 1 ns
- Solid-state silicon-avalanche technology

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)



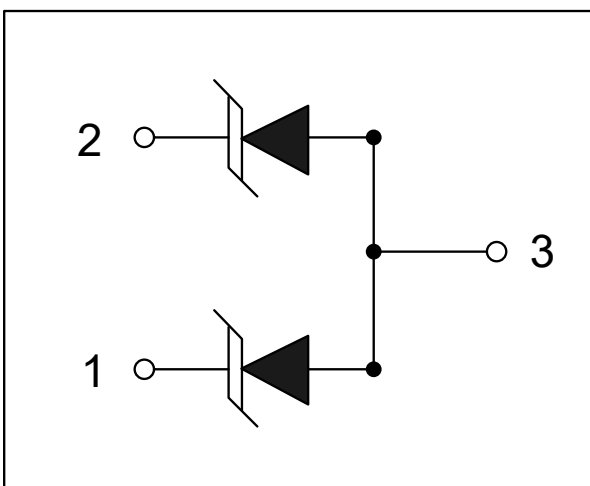
Mechanical Characteristics

- SOT-523 package
- Molding compound flammability rating: UL 94V-0
- Marking: Marking Code
- Packaging: Tape and Reel per EIA 481
- RoHS Compliant

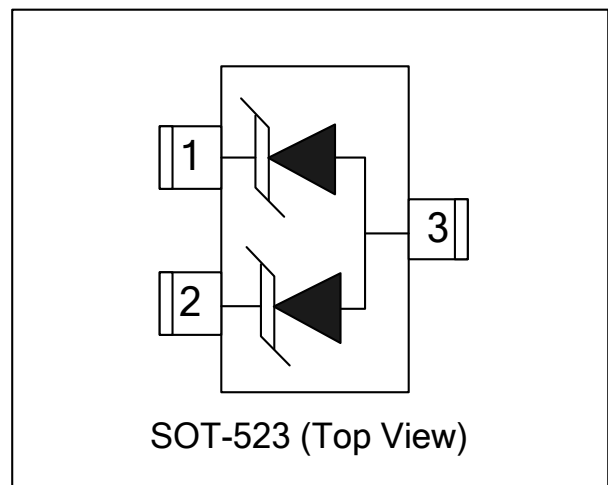
Applications

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

Circuit Diagram



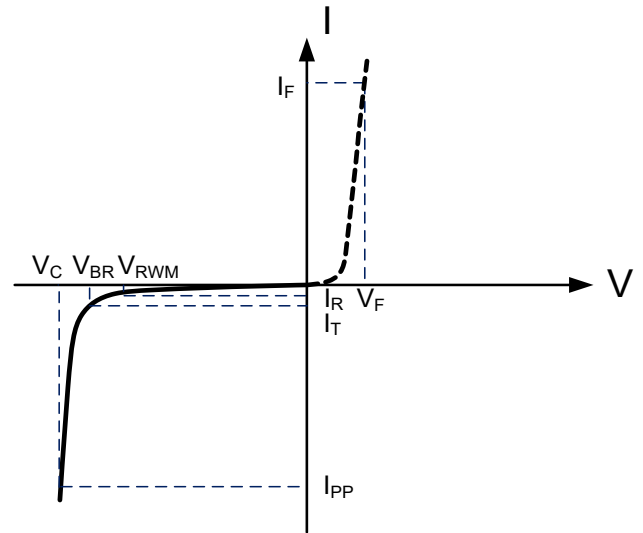
Schematic & PIN Configuration



| 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

| DW05M5LC-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.

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

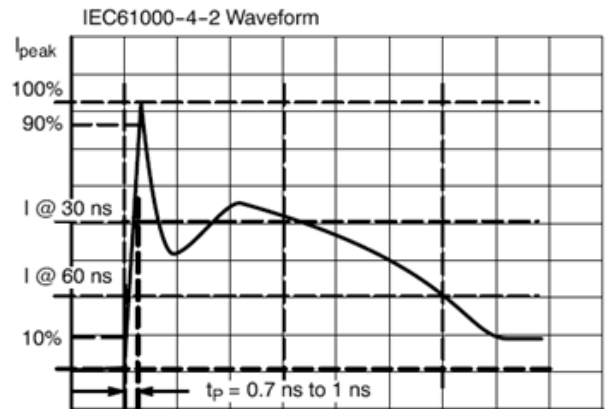


Figure 2 ESD Clamping Voltage Screenshot Positive 8 kV contact per IEC 61000-4-2

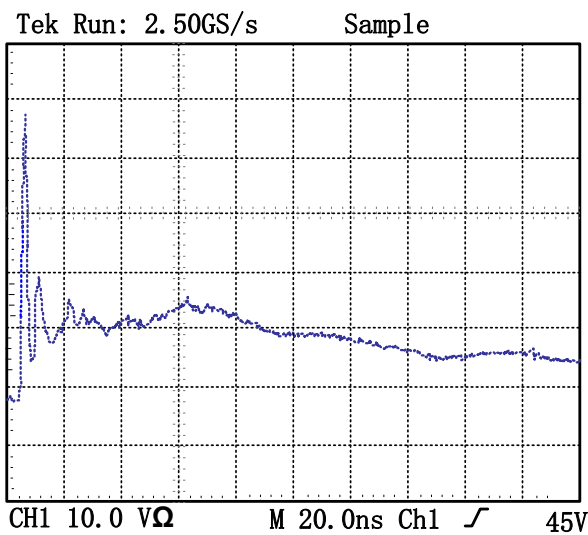
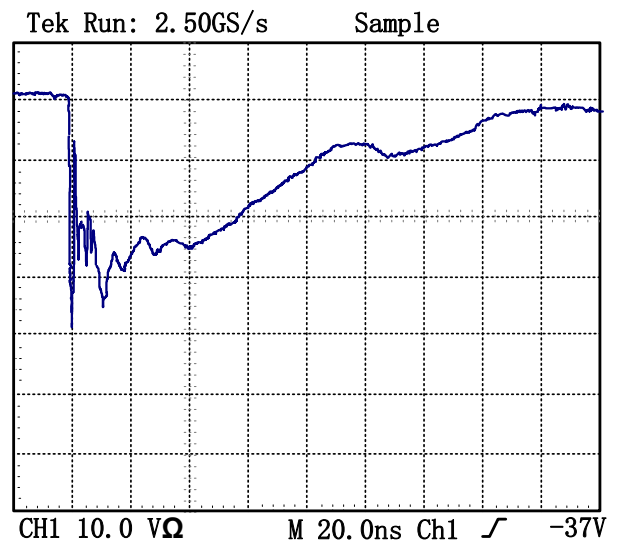
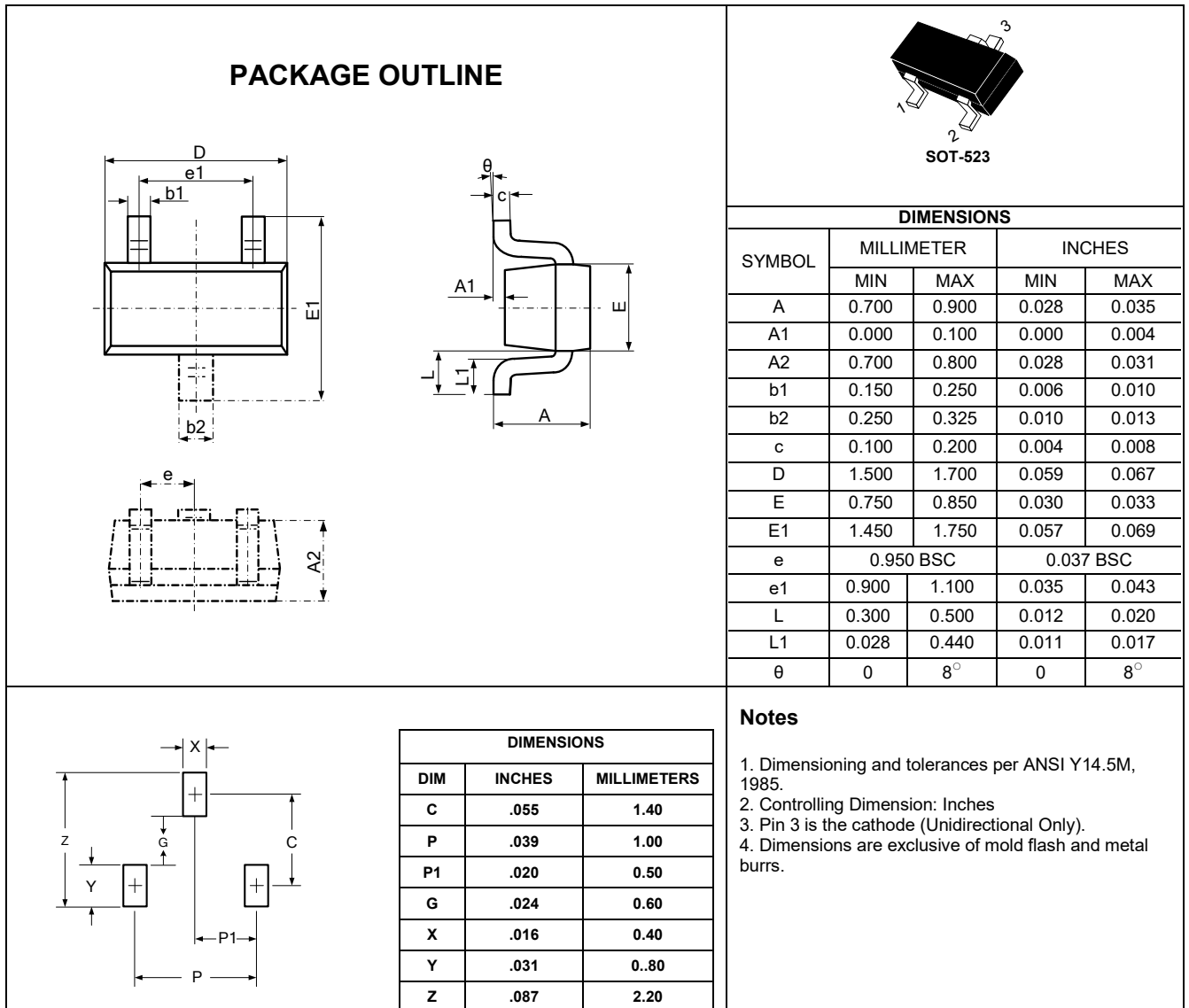


Figure 3 ESD Clamping Voltage Screenshot Negative 8 kV contact per IEC 61000-4-2



Outline Drawing – SOT-523



Marking Codes

| | |
|--------------|------------|
| Part Number | DW05M5LC-E |
| Marking Code | ML |

Package Information

Qty: 3k/Reel