



东沃电子
DOWOSEMI

DW05DLCF-01-E
Order Code: DW05DLCF-01-E

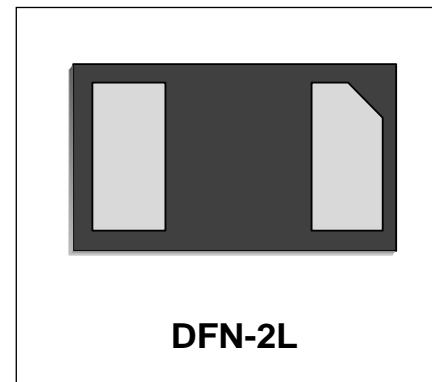
Transient Voltage Suppressor

Features

- Protects one I/O or power line
- Low Clamping Voltage
- 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)



DFN-2L

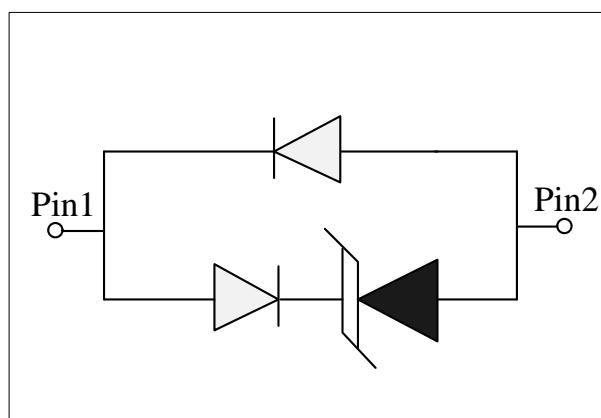
Mechanical Characteristics

- DFN-2L 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)

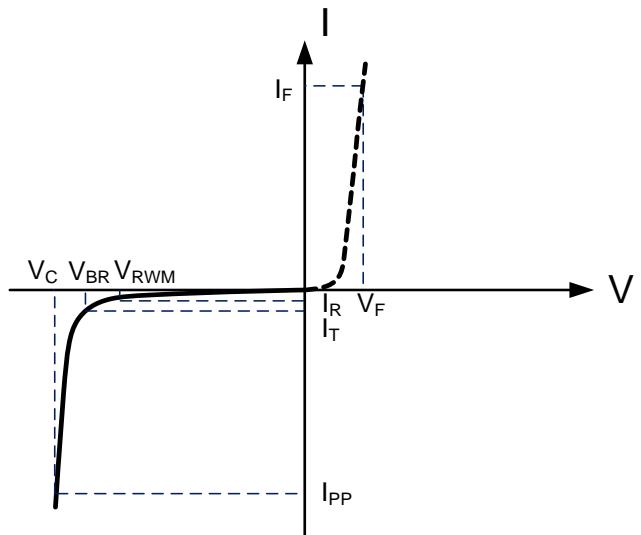
Schematic & PIN Configuration



| 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 ($T=25^{\circ}\text{C}$)

| Symbol | Parameter |
|---------------|---|
| I_{PP} | Maximum Reverse Peak Pulse Current |
| V_C | Clamping Voltage @ I_{PP} |
| 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

| DW05DLCF-01-E | | | | | | |
|-------------------------------|---------------|---|----------------|----------------|----------------|---------------|
| Parameter | Symbol | Conditions | Minimum | Typical | Maximum | Units |
| Reverse Stand-Off Voltage | V_{RWM} | | | | 5 | V |
| Reverse Breakdown Voltage | V_{BR} | $I_T=1\text{mA}$ | 6.0 | | | V |
| Reverse Leakage Current | I_R | $V_{RWM}=5\text{V}, T=25^{\circ}\text{C}$ | | | 1 | μA |
| Junction Capacitance | C_j | $V_R = 0\text{V}, f = 1\text{MHz}$ | | 1 | 2.5 | 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 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

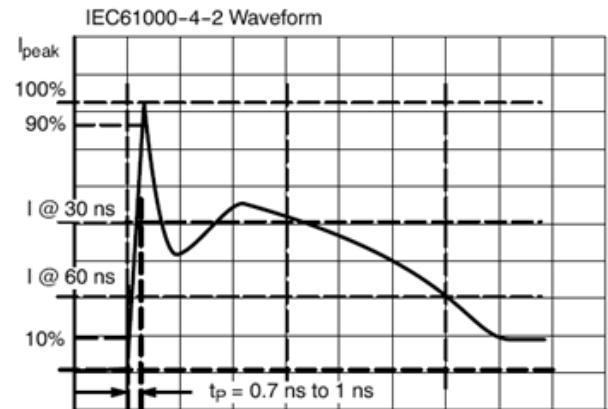


Figure 2 ESD Clamping Voltage Screenshot Positive 8 kV contact per IEC 61000-4-2

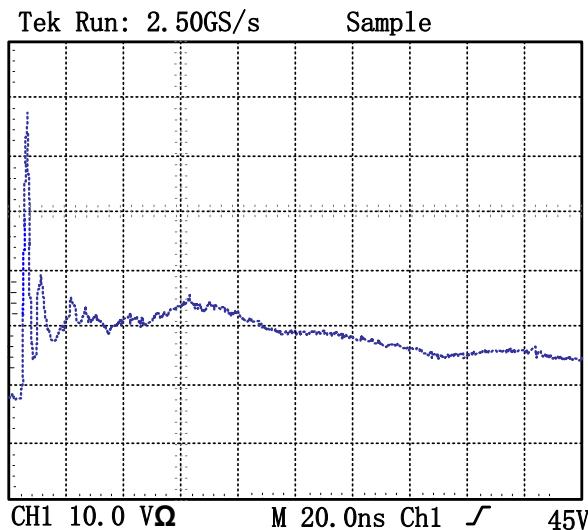
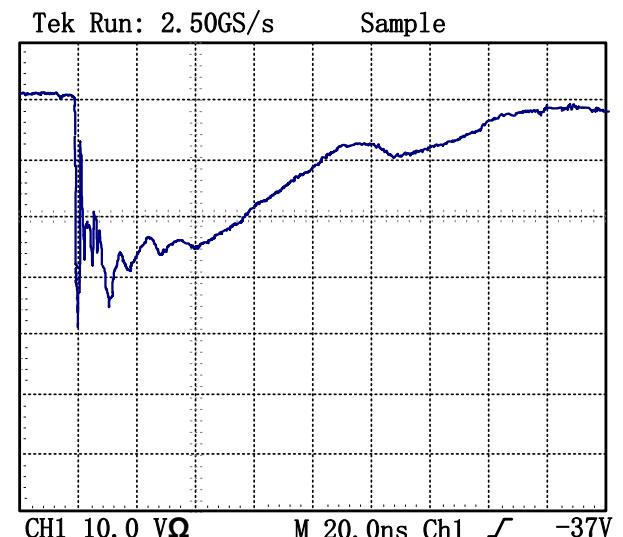


Figure 3 ESD Clamping Voltage Screenshot Negative 8 kV contact per IEC 61000-4-2



Outline Drawing –DFN-2L

| PACKAGE OUTLINE | | | |
|-----------------|-----------|------|------|
| SYMB | MILIMETER | | |
| | MIN | NOM | MAX |
| A | 0.45 | 0.50 | 0.55 |
| A1 | 0 | 0.02 | 0.05 |
| b | 0.45 | 0.50 | 0.55 |
| C | 0.12 | 0.15 | 0.18 |
| D | 0.95 | 1.00 | 1.05 |
| e | 0.65BSC | | |
| E | 0.55 | 0.60 | 0.65 |
| L | 0.20 | 0.25 | 0.30 |
| L1 | 0.05REF | | |
| h | 0.07 | 0.12 | 0.17 |

Land Pattern

Marking Codes

| Part Number | Marking Code |
|---------------|--------------|
| DW05DLCF-01-E | |

Package Information

Qty: 10k/Reel