



DT SERIES ELEMENTS WITH LEAD ATTACHMENT

SPECIFICATIONS

- Piezoelectric film sensor
- AC Coupled
- Silver Ink Electrodes
- Protective Coating over Electrodes
- Lead Wires Attached with Rivets.

The DT Series of Piezo film sensors elements are rectangular elements of Piezo film with silver ink screen printed electrodes. They are available in a variety of different sizes and thicknesses. Lead attachment is accomplished using a riveted lug going to 12" (300 mm) of 28 AWG wire.

The DT film element produces more than 10 millivolts per micro-strain. The capacitance is proportional to the area and inversely proportional to the thickness of the element.

The DT elements are supplied with a thin protective coating over the active electrode area to prevent oxidation to the top surface of the silver ink.

FEATURES

- Minimum Impedance: 1 MΩ
- Preferred Impedance: 10 MΩ and higher
- Output Voltage: 10 mV to 100V depending on Force and Circuit Impedance
- Storage Temperature: -40°C to +70°C [-40°F to 60°F]
- Operating Temperature: 0°C to +70°C [32°F to 160°F]

APPLICATIONS

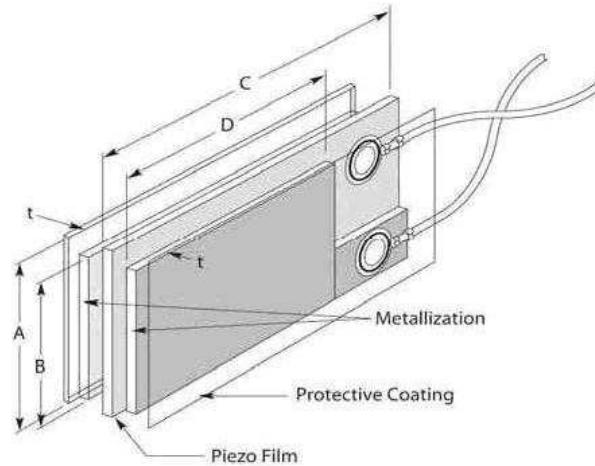
- Sensing Direct Contact Force
- Recording Time of an Event
- Counting Number of Impact Events
- Measuring Impact Related Events

TYPICAL PIEZO FILM PROPERTIES

| Symbol | Parameter | PVDF | Units |
|-----------------|-----------------------------------|--------------|--|
| t | Thickness | 28, 52 | μm |
| d ₃₁ | Piezo Strain Constant | 23 | (10 ⁻¹²)C/N |
| d ₃₃ | | -33 | |
| g ₃₁ | Piezo Stress constant | 216 | (10 ⁻³)Vm/N |
| g ₃₃ | | -330 | |
| k ₃₁ | Electromechanical Coupling Factor | 12% | |
| k _t | | 14% | |
| C | Capacitance | 380 for 28μm | pF/cm ² . @ 1KHz |
| Y | Young's Modulus | 2-4 | 10 ⁹ N/m ² |
| V ₀ | Speed of Sound | 2.2 | 10 ³ m/s in thickness direction |

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DIMENSIONS and PART NUMBERS



Dimensions in inches (mm)

| Model Number | Part Number | Film Thickness | A Film | B Electrode | C Film | D Electrode | Total Thickness (µm) | Cap (nF) |
|---------------------|-------------|----------------|----------|-------------|------------|-------------|----------------------|----------|
| DT1-028K/L w/rivets | 1-1002908-0 | 28 µm | .64 (16) | .484 (12) | 1.63 (41) | 1.19 (30) | 40 | 1.38 |
| DT1-052K/L w/rivets | 2-1002908-0 | 52 µm | .64 (16) | .484 (12) | 1.63 (41) | 1.19 (30) | 64 | .740 |
| DT2-028K/L w/rivets | 1-1003744-0 | 28 µm | .64 (16) | .484 (12) | 2.86 (73) | 2.42 (62) | 40 | 2.78 |
| DT2-052K/L w/rivets | 2-1003744-0 | 52 µm | .64 (16) | .484 (12) | 2.86 (73) | 2.42 (62) | 64 | 1.44 |
| DT4-028K/L w/rivets | 1-1002150-0 | 28 µm | .86 (22) | .740 (19) | 6.72 (171) | 6.72 (171) | 40 | 11.00 |
| DT4-052K/L w/rivets | 2-1002150-0 | 52 µm | .86 (22) | .740 (19) | 6.72 (171) | 6.72 (171) | 64 | 5.70 |

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