FDT SERIES ELEMENTS WITH LEAD ATTACHMENT

FEATURES

- Thin piezo film sensor
- Flexible leads give flat profile to the sensor
- Dynamic strain sensing with a high output
- Typical interface to a 1 or 10 M Ω input impedance
- Output Voltage (dependent on force applied) 10 mV to 100V

APPLICATIONS

- Sensing Direct Contact Force
- Recording Time of an Event
- Counting Number of Impact Events
- Measuring Impact Related Events
- Sensing Vibration using Cantilevered Beam
- Wakeup Switch
- Motion Detection

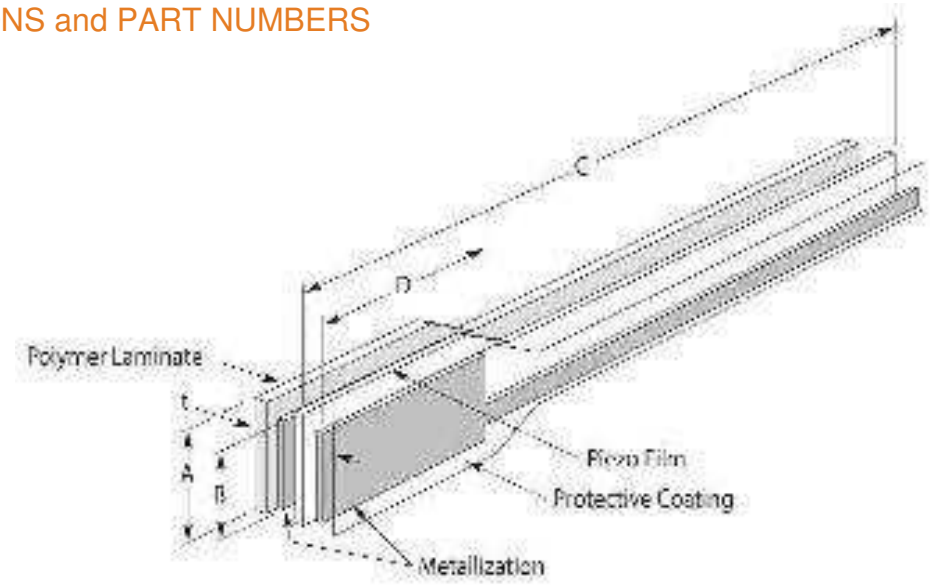
SPECIFICATIONS

- **Piezo Film Technology**
- **Flexible Leads**
- **High Strain Output**
- **Film Thickness Options**
- **Lamination Options**
- **Solderable Connection Pins**

The "F" in FDT Series stands for "'Flexible Leads". These are rectangle elements of Piezo film with silver ink screen printed electrodes. Rather than making the lead attachment near the sensor, the Piezo polymer tail extends from the active sensor area as flex circuit material with offset traces. This gives a very flat, flexible lead with a connector at the end.

The FDT elements are available in a variety of different sizes and thicknesses. They are available without a laminate (FDT), with a laminated (0.005" mylar) on one side (FLDT) or with tape release layer adhesive (FDT with adh) in the sensor area.

DIMENSIONS and PART NUMBERS



DIMENSION in INCHES (mm)

Model Number	Part Number	Film thickness	A Film	B Electrode	C Film	D Electrode	t (µm)	Cap (nF)
FDT1-028K	1-1002785-1	28 µm	.620 (16)	.485 (12)	9.25 (235)	1.16 (30)	55	1.37
FDT1-052K	2-1002785-1	52 µm	.620 (16)	.485 (12)	9.25 (235)	1.16 (30)	85	.740
FLDT1-028K	1-1002786-1	28 µm	.620 (16)	.485 (12)	9.25 (235)	1.16 (30)	205	1.37
FLDT1-052K	2-1002786-1	52 µm	.620 (16)	.485 (12)	9.25 (235)	1.16 (30)	230	.740
FDT1-028K w/adh-F	1001777	28 µm	.650 (17)	.485 (12)	5.51 (140)	1.18 (30)	125	1.37

The connector pins on the FDT sensors can be directly soldered to a PCB with a reasonable level of care. This component cannot withstand high temperatures (>80°C) and therefore soldering of the pins to a PCB must be done quickly. A heat sink clamped to the interface area between the film and the crimps will take the heat away from the film. Pre-tin the pins and then quickly solder them to the board. Do not allow the soldering iron to touch the film and do not use a dwell time of more than 5 seconds on the pins. Low temperature solder can also be used.

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