

FDT Series Elements with Lead Attachment

- 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 ones side (FLDT) or with tape release layer adhesive (FDT with adh) in the sensor area.



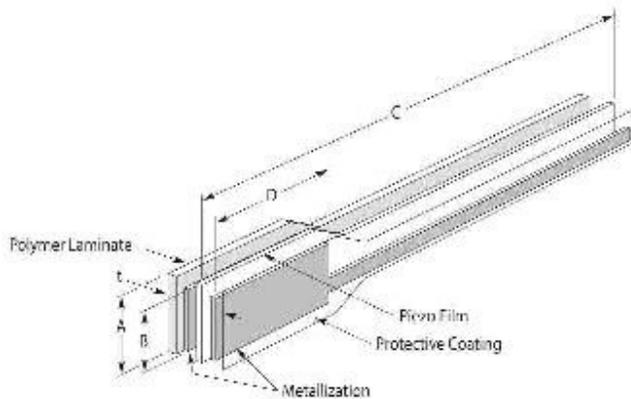
FEATURES

- 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 MΩ input impedance
- Output Voltage dependant 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

dimensions



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
FLDT1-028K 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 over 5 seconds on the pins. Low temperature solder can also be used.

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ordering information

North America

Measurement Specialties, Inc.
1000 Lucas Way
Hampton, VA 23666
Sales and Customer Service
Tel: +1-800-745-8008 or
+1-757-766-1500
Fax: +1-757-766-4297
Technical Support
Email: piezo@meas-spec.com

Europe

MEAS Deutschland GmbH
Hauert 13
44227 Dortmund
Germany
Sales and Customer Service
Tel: +49 (0)231 9740 21
Technical Support
Tel: +49 (0)6074 862822
Email: piezoeurope@meas-spec.com

Asia

北京赛斯维测控技术有限公司
北京市朝阳区望京西路48号
金隅国际C座1002
电话: +86 010 8477 5646
传真: +86 010 5894 9029
邮箱: sales@sensorway.cn
http://www.sensorway.cn