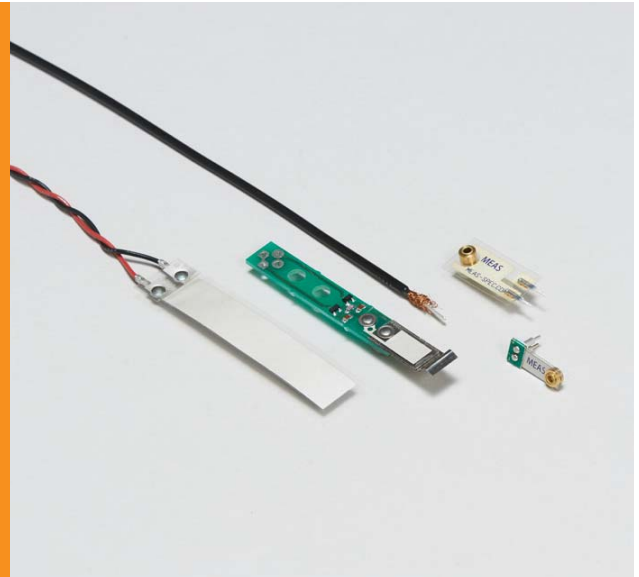


PIEZO FILM SENSORS



PIEZO FILM



	DT1, SDT1	Piezo Cable	CM-01	FLDT1
Package	Unshielded element with twisted pair or shielded element with shielded cable	Shielded coaxial 20 gage piezo cable	Metallized plastic housing	Unshielded film element with screen printed leads
Type	Flexible film, adhesive mount	Polymer jacketing, armored jacketing	Contact microphone	Flexible film, adhesive mount
Range	15 mV/ $\mu\epsilon$ up to 1% strain	μPa sensitivity	40 V/mm; 8 Hz to 2.2 kHz	15 mV/ $\mu\epsilon$, up to 1% strain
Unique Features	- Thin, flexible, robust - Withstands >2% strain - Ultra-low power (Self generating)	- Continuous lengths of up to 1 km - Shielded construction	- Low noise - Shielded construction - High sensitivity	- Thin, flexible - Leads screen printed on film - Connects to standard connector
Accuracy	$\pm 20\%$ (Typical)	$\pm 20\%$ (Typical)	—	$\pm 20\%$ (Typical)
Operating Temp.	-40°C to 70°C (Higher available custom)	-40°C to 85°C	5°C to 60°C	-40°C to 70°C; (Higher available custom)
Dimensions (mm)	Application dependent	$\varnothing 3$ (Continuous lengths)	$\varnothing 18 \times 11$ high	12 x 30 active; (Custom available)
Typical Applications	Dynamic strain gage, contact microphone, acoustic pickup	Perimeter and fence security, geophone, impact sensors, intrusion detection, seat occupancy (e.g. airbag), patient bed vital signs monitor	Electronic stethoscope, contact microphone, vibration	Event timing, dynamic strain, motion detection

PIEZO FILM



Sleep Monitor Strip

Package	Unshielded element with crimps
Type	Flexible film, adhesive mount
Range	15 mV/ $\mu\epsilon$ up to 1% strain
Unique Features	- Thin, flexible, robust - Withstands >2% strain - Ultra-low power (Self generating)
Accuracy	$\pm 20\%$ (Typical)
Operating Temp.	-40°C to 70°C (Higher available custom)
Dimensions (mm)	28 μm PVDF; 8mm x 800mm
Typical Applications	Respiration and heart beat monitoring for mattress or seat



BL Traffic Sensor

Center Core: 16 gage copper wire Piezoelectric Material: Piezoelectric film cable Outer Sheath: 0.016" thick brass
Spiral wrapped PVDF piezo film cable
15 mV/ $\mu\epsilon$ up to 1% strain
- Flexible, durable, available in many lengths - Withstands >2% strain - Ultra-low power (Self generating)
$\pm 20\%$ (Typical)
-40°C to 70°C (Higher available custom)
0.260" wide x 0.063" thick; 0.005"
Traffic counting, classifying, toll booths, speed detection, red light cameras



Laboratory Amplifier

Bench top
Piezo film lab amp
0.1 Hz to 100 kHz
- Voltage or charge mode settings - Multi-pole high-pass and low-pass filters - Adjustable gain
Application dependent
0°C to 40°C
150 x 100 x 100
Low frequency dynamic strain, pyroelectric signals, machine vibration, piezo cable and traffic sensor interface



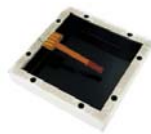
80 KHz Transducers

Pin mounted
Air ultrasound transducer
80 kHz
- Small size - Low mechanical Q - Shielded package
Application dependent
-20°C to 80°C
$\varnothing 6 \times 9$
Air ranging, ultrasonic mouse, digitizers



NDT-1

Package	Adhesive mounted
Type	High frequency ultrasound transducer
Range	3 MHz
Unique Features	- Flexible - High bandwidth, low Q - Low impedance
Accuracy	Application dependent
Operating Temp.	-20°C to 60°C
Dimensions (mm)	12 x 30
Typical Applications	Thickness measurement, speed of sound measurement, pulse/echo NDT



Tammer Box

Flat film or box mounted
Tamper detection sensor
Application dependent
- Low power - Custom shapes and sizes - High security
Application dependent
-40°C to 85°C
Application dependent
Encryption modules, POS card readers, PIN entry devices



ACH-01

Ceramic base, plastic cover, shielded cable
Adhesive mount
± 250 g (Typical)
- Extremely high bandwidth - Low cost - Ultra-low power
$\pm 20\%$ (Typical)
-40°C to 85°C
18.80 x 13.21 x 6.10
Vibration sensing, gear box and high speed monitoring, high speed bearings and centrifuges, speaker motional feedback



LDTC Family

Piezo film elements with or without mass
Cantilever beam with vertical or horizontal pins
± 10 g (Typical)
- Very low cost - High sensitivity (1 V/g) - Ultra-low power (Self generating)
$\pm 20\%$ (Typical)
-40°C to 70°C
19.05 x 6.35 x 6.35
Wake-up switch, load imbalance, antitheft devices, impact sensing, vital signs monitoring