

#### Audio/Acoustic

- Microphones
  - Dive Helmets
  - Gas Mask
  - Contact
- Stethoscope
- Acoustic Pickups
- Flow Sensors
- Speakers
  - Novelty Consumer
  - Tweeters
  - Pagers

#### Ultrasound (40 kHz & 80 KHz)

- Air-Ranging Proximity
- Medical Imaging Catheters
- Phased Array
- Acoustic Emission
- Level Sensors (Inkjet, toner)
- Robotic Tactile Sensors
- Variable Force Sensors
- Digitizers

#### Switch

##### SW100 Series

- Pinball Impact Switches
- Gaming Machine Switches
- Utility Meter Counters

##### Custom Switches

- Vector Switch/Joystick
- CMOS Circuit Wake-Up Switch
- Pacinko Game
- Electronic Piano Keys
- Impact Printer Timing Switch
- Sports Target (Impact)
- Snap Action Switches
- Beam Switch

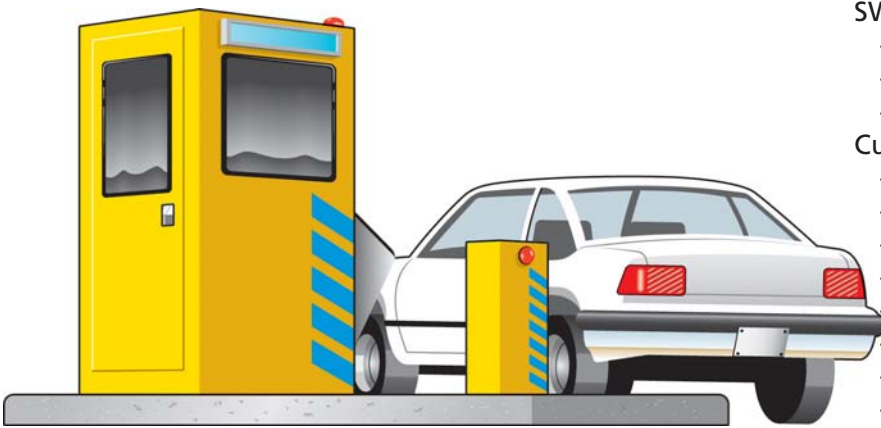
#### Piezo Cable

- Step Switches
- Pedestrian Safety Mats (Fence & Buried)
- Perimeter Security
- Antitamper

#### Traffic Sensors

##### Series BL

- Vehicle Classification
- Weight-in-Motion
- Speed/Red Light Enforcement
- Airport Taxiway
- Security/Safety



# Metalized Piezo Film Sheets

Piezo film is available in a variety of different film sizes and thicknesses. These can be fabricated into simple transducers, or for use as full size sheets for applications such as speakers.

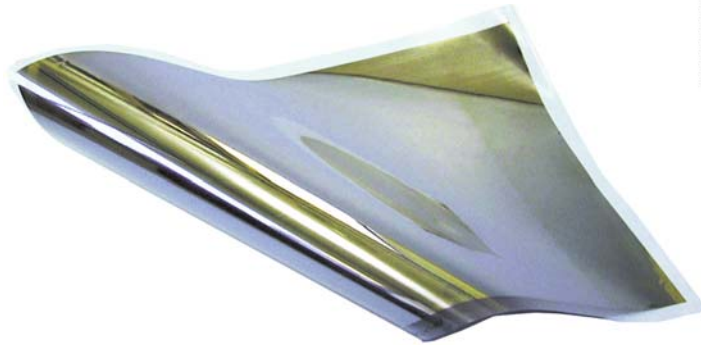
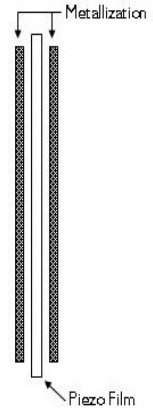
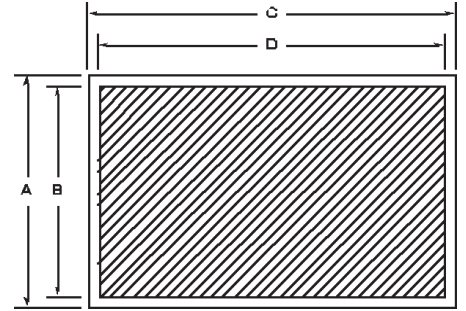
Piezo Film is available in different thicknesses. Thinner films (28 and 52  $\mu\text{m}$ ) are the most common, due to their higher capacitance and good mechanical qualities. Thicker film (110  $\mu\text{m}$ ) is used where maximum robustness is needed, or if the sensor is being used in a thickness mode ( $d_{33}$ ) application.

Metallization options include a compliant silver ink as well as sputtered metallization. The silver ink is best for applications where mechanical stress is being applied. Silver ink lends itself to custom metallization patterns for easy lead attachment.

Thin sputtered metallization is brittle and used where signal to noise requirements dictate very low mass loading by the electrodes. Our standard sputtered metallization is 700 $\text{\AA}$  of copper covered with 100 $\text{\AA}$  of nick-

el change NiCu Alloy to Cu with Ni, which has good conductivity and is resistant to oxidation. Other metallizations such as gold are available on a custom basis with a set up fee. For the sputtered metallized film, there is no border.

These are only general rules, and a discussion with our applications engineers will help you to make the best choice for your specific application.



## DIMENSIONS in INCHES (mm)

Description	A Film	B Electrode	C Film	D Electrode	t ( $\mu\text{m}$ )	Metallization	Part Number
28 $\mu\text{m}$ piezo film	8.00 (203)	8.00 (190)	11.00 (280)	11.00 (267)	28	Cu-Ni	1-1003702-7
28 $\mu\text{m}$ piezo film	8.00 (203)	7.50 (190)	5.50 (140)	5.00 (127)	40	Silver Ink	1-1004347-0
28 $\mu\text{m}$ piezo film	8.00 (203)	7.50 (190)	11.00 (280)	10.50 (267)	40	Silver Ink	1-1004346-0
52 $\mu\text{m}$ piezo film	8.00 (203)	8.00 (190)	11.00 (280)	11.00 (267)	52	Cu-Ni	2-1003702-7
52 $\mu\text{m}$ piezo film	8.00 (203)	7.50 (190)	5.50 (140)	5.00 (127)	64	Silver Ink	2-1004347-0
52 $\mu\text{m}$ piezo film	8.00 (203)	7.50 (190)	11.00 (280)	10.50 (267)	64	Silver Ink	2-1004346-0
110 $\mu\text{m}$ piezo film	8.00 (203)	8.00 (190)	11.00 (280)	11.00 (267)	110	Cu-Ni	3-1003702-7
110 $\mu\text{m}$ piezo film	8.00 (203)	7.50 (190)	5.50 (140)	5.00 (127)	122	Silver Ink	3-1004347-0
110 $\mu\text{m}$ piezo film	8.00 (203)	7.50 (190)	11.00 (280)	10.50 (267)	122	Silver Ink	3-1004346-0