

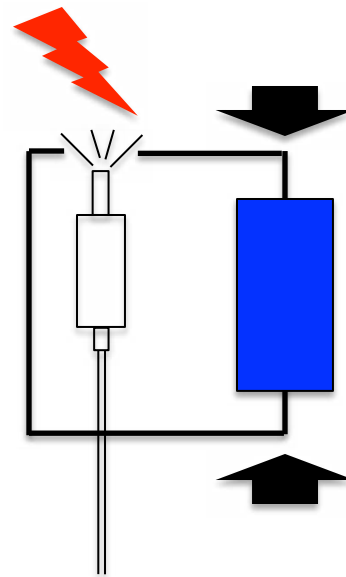
Lab #9 Piezo/TE

Piezoelectric Lighter

1. Observe sparks
2. Connect to LED



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Mechanical shock is converted to electricity

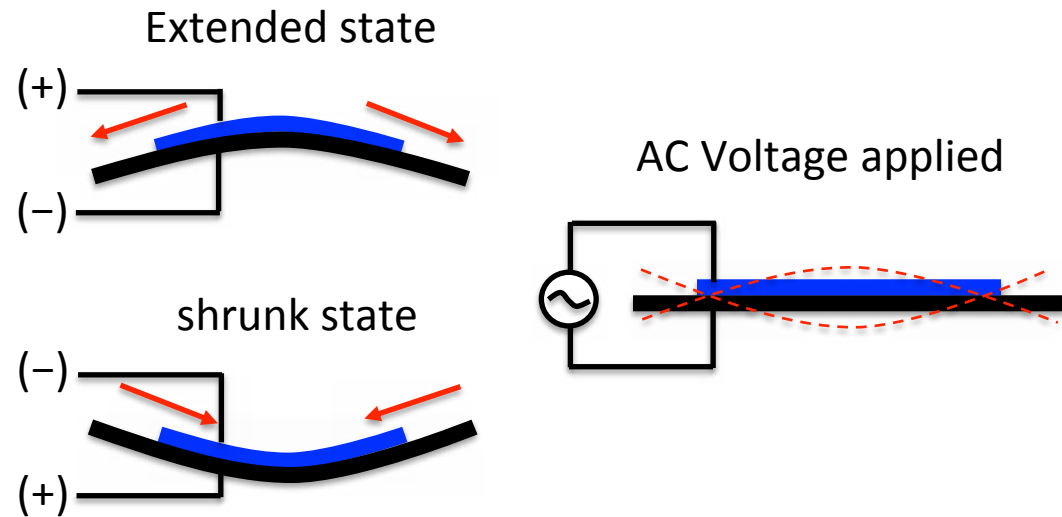
Breakdown voltage in air???

A small, spring-powered hammer rise off the surface of the piezo crystal strikes the crystal as the gas is turned on. The impact creates a large voltage across the crystal, and therefore a spark between the wires, which ignites the gas.

Piezoelectric Buzzer

1. Observe movements
2. Connect to LED
3. Connect to Function Gen.
4. Connect to Tone Gen.

D\chc[fUd\ 'cZ d]YncY'YWf]WY'Ya Ybhg'cZU'V&bhUW'a]Wcd\cbY
fYa cj YX'Xi Y'hc'V&dntf][\hfYghf]W]cbg"
FYZf'hc. 'D\chc[fUd\ 'cb'K _]a YX]U'7ca a cbg"



A piezoelectric diaphragm consists of a piezoelectric ceramic plate which has electrodes on both sides and a metal plate.

When AC voltage is applied across electrodes, the bending is repeated, producing sound waves in the air.

Thermoelectric Cooler



1. Take it apart
2. Measure resistance of TE module
3. Measure Seebeck coefficient of TE module



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