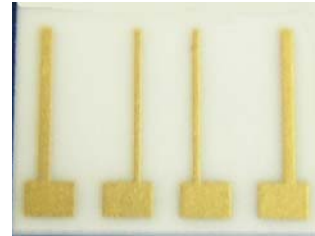
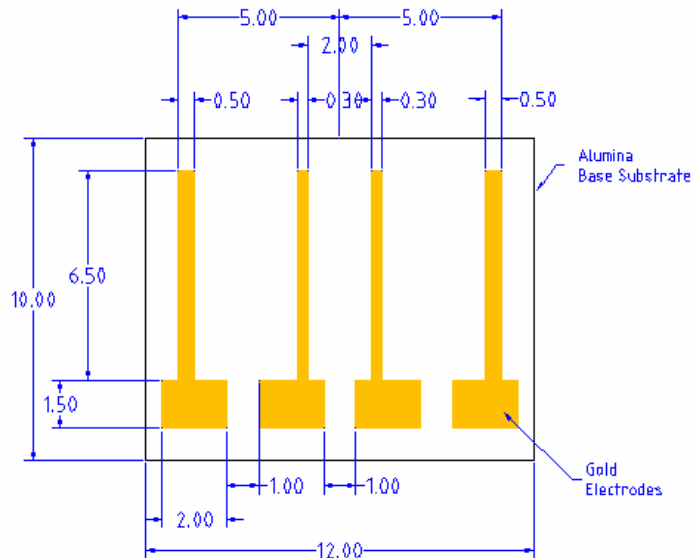


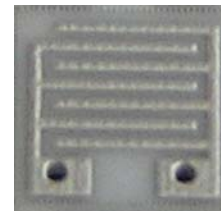
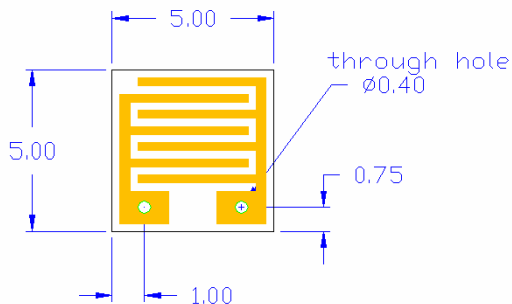
## Electrodes for Sale

The Electronics Design Center sells thick film printed electrodes for R&D testing purposes. Please email [lx3@case.edu](mailto:lx3@case.edu) for pricing. The types of electrodes are:



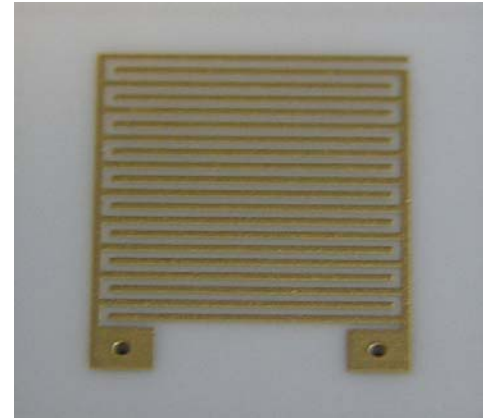
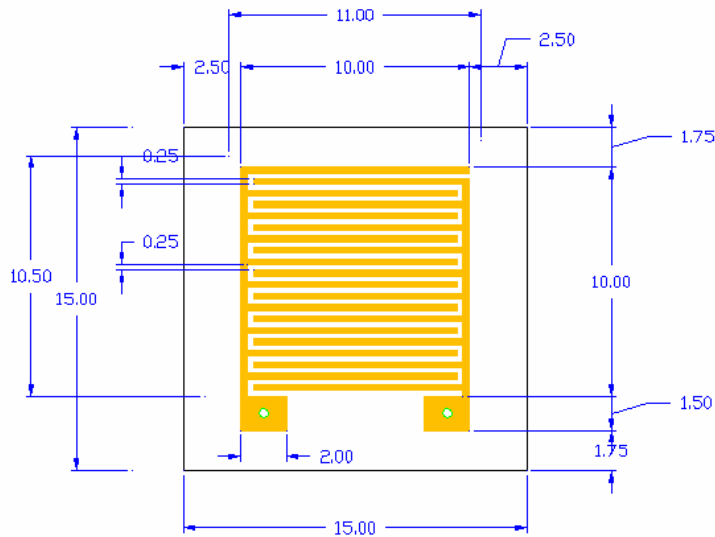
### Item # 100 - 4-Point Probe Electrode

This electrode consists of four gold lines on an alumina substrate. The over all dimensions of the alumina is 12 mm x 10 mm (see drawing above). The electrode is used by spreading material over the four electrodes and then testing the resistivity of the material. This is very useful for designing battery, fuel cell and sensing materials.



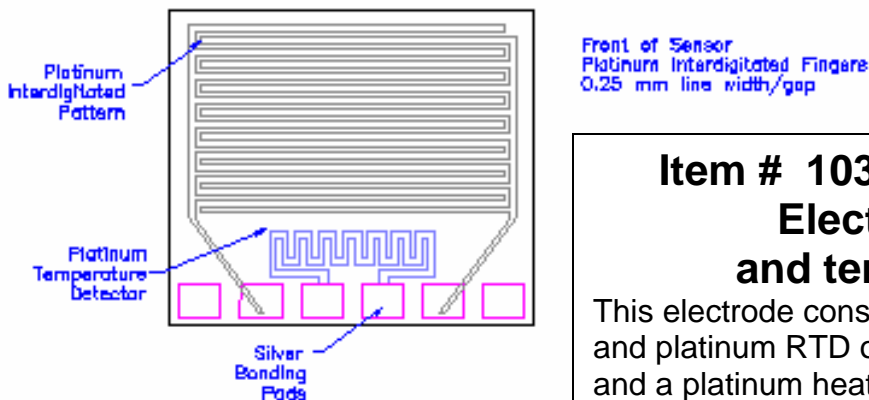
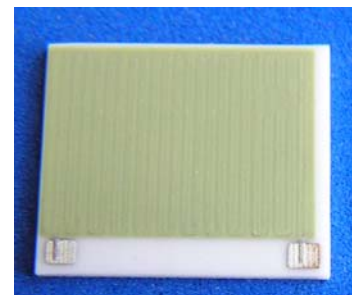
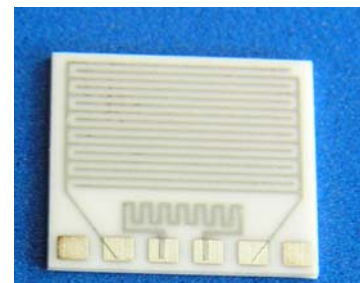
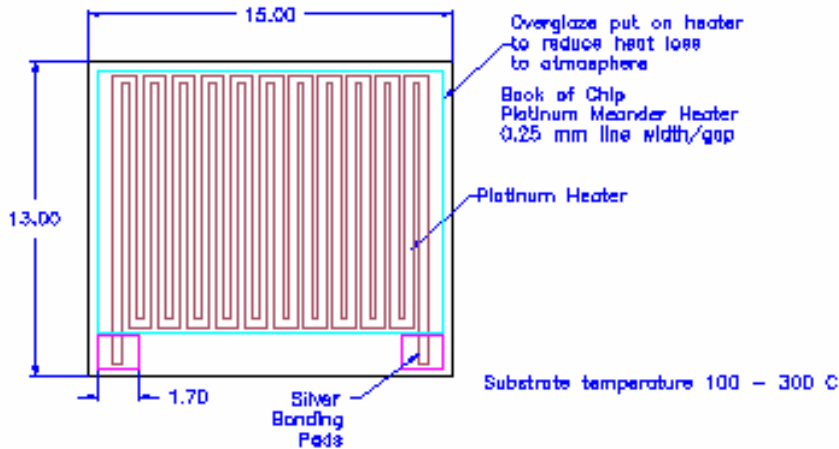
### Item # 101 - Interdigitated Finger Electrode (5x5mm)

This electrode consists of interdigitated gold or silver lines on an alumina substrate. The over all dimensions of the alumina is 5 mm x 5 mm (see drawing above). The electrode is used by spreading material over interdigitated fingers. The holes in the bonding pads allow wires to be threaded through them for electrical connection. Specify gold or silver when requesting pricing.



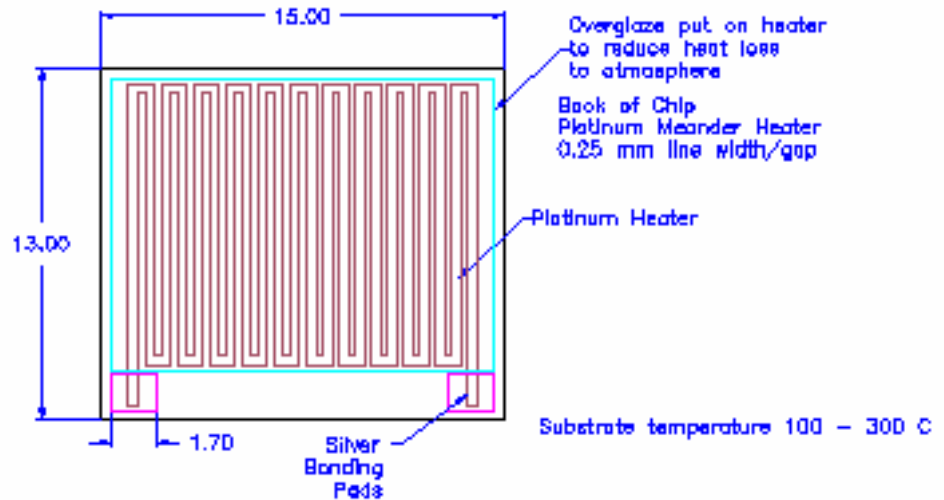
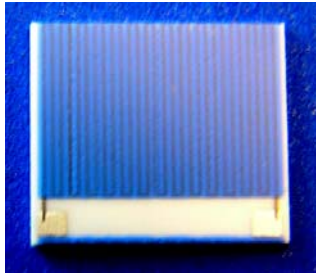
### Item # 102 - Interdigitated Finger Electrode (15x10mm)

This electrode consists of interdigitated gold lines on an alumina substrate. The over all dimensions of the alumina is 15 mm x 10 mm (see drawing above). The electrode is used by spreading material over interdigitated fingers. The holes in the bonding pads allow wires to be threaded through them for electrical connection.



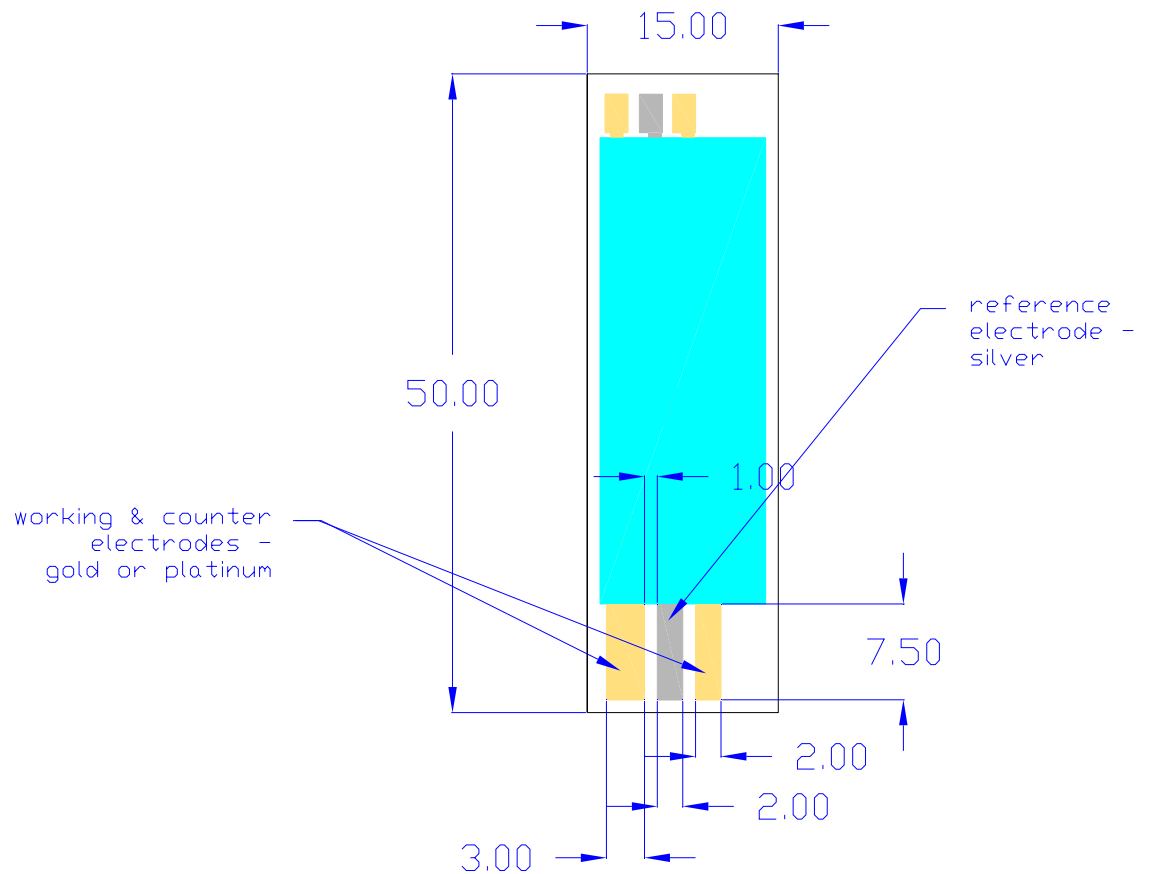
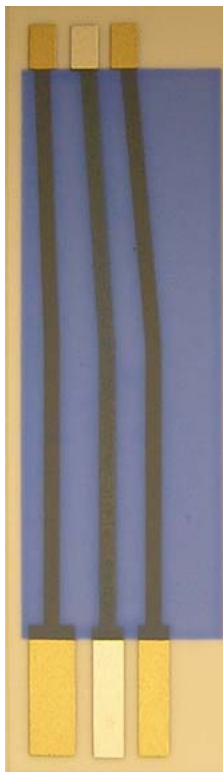
### Item # 103 - Interdigitated Finger Electrode with heater and temperature detector

This electrode consists of interdigitated platinum lines and platinum RTD on one side of an alumina substrate and a platinum heater on the other side. The over all dimensions of the alumina is 15 mm x 13 mm (see drawing above). The bonding pads are silver for easier soldering.



### Item # 104 - Platinum Heater

This electrode consists of a thick film platinum heater on an alumina substrate. The other side of the alumina is blank. The over all dimensions of the alumina is 15 mm x 13 mm (see drawing above). The bonding pads are silver for easier soldering.



### Item # 105 - 3-electrode electrochemical sensor bases

These electrodes consists of a thick film metals for the working, counter and reference electrode on an alumina substrate. The other side of the alumina is blank. The over all dimensions of the alumina is 15 mm x 50 mm (see drawing above). The reference electrode is silver which would need to be electrochemically chloridized to become silver/silver-chloride for usage. The working and counter electrodes can be either gold or platinum