

Abstract Submitted
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Estimating the sheet resistance of a thin film with an Ohm-meter

ALAN WOODALL, WILHELMUS GEERTS, Texas State University — In order to get an estimate of the sheet resistance of a thin film sample, without having access to a four point probe measurement system, one could measure the resistance with a simple digital multimeter using two electrodes. For thin film materials that form a good electric contact with the chrome plated electrodes, the two point probe resistance measured by placing the two electrodes in the middle of the sample is proportional to the sheet resistance. The proportionality factor between the measured resistance and the thin film's sheet resistance appears to be dependent on the ratio of the electrode spacing (s) and the electrode diameter (d). For s/d is equal to 12, the proportionality factor is one, which means that the measured resistance is a good estimate of the film's sheet resistance. The error is less than 10 percent for s/d values between 9 and 16.

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