Connections to Keithley 7510 DMM:

Measure Resistance (R) in ohms:
1. Power on
2. Press "HOME" button
3. Press "4ωΩ" button
4. Swipe left one window (to SETTINGS window shown above)
5. Check "Filter" button
6. Make sure "Rate" is set to 1 (this sets a 1-second averaging filter)
7. Place a copper sheet under the probes, put probe tips in contact
8. Depress the red button on the probe stage to hydraulically engage the probes, hold it down
9. Press the "Rel" button so it gives a green checkmark. This zeroes the measurement
10. Release the red button on the probe stage, place your sample under the probe
11. Depress the red button on the probe stage to hydraulically engage the probes, hold it down
12. Measure resistance of sample in 4 or 5 places to get an average value. Note whether the reading is in Ω, kΩ, or MΩ

Measure Sample Thickness (W) in cm:
1. Using the digital micrometer, measure the sample thickness, convert to cm.

Calculate Resistivity:

\[
\text{Resistivity} = \rho = R \times 4.532 \times W
\]

**Example:** resistance measured is 0.0041 ohms, thickness is 0.0538 cm
\[
\rho = 0.0041 \times 4.532 \times 0.0538 = 0.0010 \ \Omega \text{-cm} = 1.0 \text{ mΩ-cm}
\]

The constant 4.532 is the correction factor for the infinite sheet approximation \((\pi/\ln2)\). Your measurements should not be made too close to the edge of the wafer. Distance from edge must be > 5x of the distance between each of the probes.