QC of SEIKO Prototype Sensors

1. Every Strip

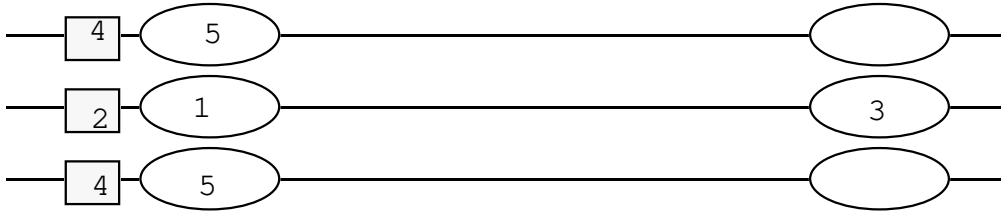
1-1) coupling capacitor : measure C (at Hz) between DC and corresponding AC pads.

1-2) leakage current (P-side only) : Using the dedicated metal strip (see Fig. in "QC of Hamamatsu Prototype Sensors"), P-side can be biased and probed from top. Try to measure leakage current of each strip by probing the corresponding DC pad (2).

The same scheme is not applicable to N-side since no junction exists. If we are obliged to measure every leakage current, we need to develop a jig.

1-3) isolation (P-side only) : Using the same dedicated metal strip, P-side isolation can be measured with bias. R(1-5) gives the isolation between Al strips, and R(2-4) gives that between implant strips. Not all strips are to be measured.

1-4) interstrip capacitance (P-side only) : Bias using the same dedicated strip and measure C between 1-5. Not all strips are to be measured.



2. Every Sensor

2-1) I-V curve:

2-2) C-V curve:

2-3) Al resistivity: measure R of test structures made on the sensor

3. Sampling (wire bond a fraction of strips on test board)

3-1) N-side isolation:

3-2) N-side leakage currrent:

3-3) N-side interstrip capacitance:

Note that 1 and 2 are done on the die basis (before cutting).