NAPSON CORPORATION

The Pioneer
for Sheet resistance/Resistivity
measurement

Model : NC-80MAP

Non-contact sheet resistance measurement system

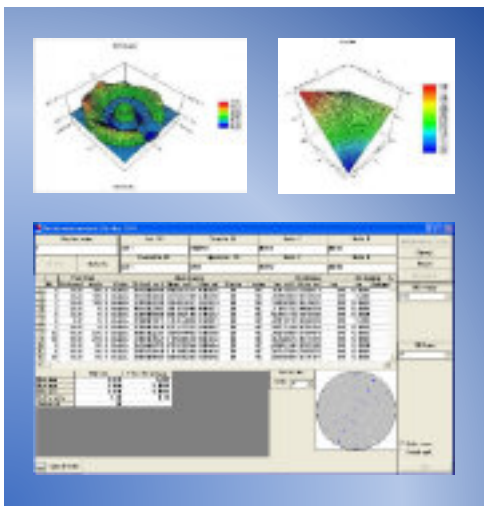


The NC-80MAP measures sheet resistance for GaAs ,GaN, SiC wafer and metal layer etc. without contacting (Eddy current measurement method). It provides high accuracy/high tact measurement.
It can be expand to fully automatic system with robot and cassette station.

Feature and function

*Multi-points measurement and Mapping display
(and 2-D map / 3-D map graphic display with maximum 217 points)
*Wide ranges measurement and high accuracy with Non-contact eddy current probes
*Mapping program software
- Arranged in a concentric multipoint pattern measurement is programmed (maximum 217 points) and random pattern is programmable by operator.
- SPC charts and 2-D, 3-D mapping software.
- SPC chart function includes Ave, Max, Min and each limit(Upper/Lower control and setting), and Uniformity (%, Standard deviation)

*Wafer load/unload function and the aligner unit.
*2 ~ 8-inch wafer measurement is available
*Easy operation by Windows 11 system software
*Measurement data base link with Excel via CSV format file



Specifications

Probe type	Measurement Range
(1) Super Low ※Option	0.001 ~ 0.01 ohm/sq (0.00005~ 0.0005 ohm.cm)
(2) Low	0.01 ~ 0.5 ohm/sq (0.0005 - 0.025 ohm.cm)
(3) Middle	0.5 ~ 10 ohm/sq (0.025 – 0.5 ohm.cm)
(4) High / Super High	10 ~ 3200 ohm/sq (0.5 ~ 160 ohm.cm)

*Diameter of probe cores : 14 mm diameter (5 mm is available : S-Low, Low)
*Resistivity range for each probe type(ohm.cm) assumed thickness : 500μm.
* Resistivity is a reference value due to variations with sample thickness.

Measurement accuracy performance

Conforms to ASTMF673.
NIST or VLSI wafers are used for the measurements below. They are manually placed on the instrument stage and driven with a gap of 1.7-2 mm.

Linearity (Less than)

Measurement Range	%
0.001 ~ 0.01 ohm/sq	±2 %
0.01 ~ 0.5 ohm/sq	±2 %
0.5 ~ 10 ohm/sq	±2 %
10 ~ 400 ohm/sq	±2 %
400 ~ 1000 ohm/sq	±2 %
1000 ~ 3200 ohm/sq	±3 %

Repeatability

*CV = STDEVP/AVG × 100%
Repeatability by each ohm/sq (% of one sigma) and 10 times measurement (same site of the certified area of NIST and/or VLSI standards).

Measurement Range	%
0.001 ~ 0.01 ohm/sq	0.2 %
0.01 ~ 0.5 ohm/sq	0.3 %
0.5 ~ 10 ohm/sq	0.3 %
10 ~ 400 ohm/sq	0.3 %
400 ~ 1000 ohm/sq	0.7 %
1000 ~ 3200 ohm/sq	1.5 %

Throughput (Tact time)

Points	Line (ϕ4" wafer)	Radial (ϕ4" wafer)	Line (ϕ8" wafer)	Radial (ϕ8" wafer)
1	4s(±1s)	4s(±1s)	4s(±1s)	4s(±1s)
5	13s(±1s)	18s(±1s)	14s(±1s)	19s(±1s)
9	-	20s(±2s)	-	22s(±2s)
17	-	35s(±2s)	-	38s(±2s)
37	-	55s(±3s)	-	60s(±3s)
121	-	125s(±5s)	-	136s(±5s)
217	-	205s(±8s)	-	220s(±8s)

☆**Please visit our website for the movie of this system.**

*Please contact us for more details.
*The customers are always welcome to do Demo measurement.
*Specification subject to change without notice.

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