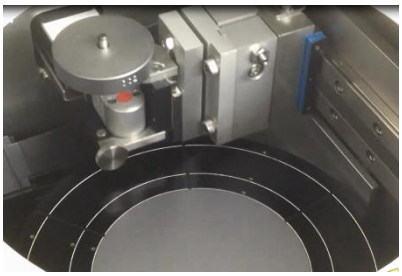
NAPSON CORPORATION

The Pioneer
for Sheet resistance/Resistivity
measurement

Model : CRESBOX

Semi-automatic 4 point probe sheet resistance/resistivity measurement system



High performance & Small foot print

Programmable & arbitrary pattern for round & square shape

Features

- Multi-points measurement and Mapping display
  - 2-D map / 3-D map graphic display
  - Multipoint pattern measurement is programmed (maximum 1225 points) and random pattern is programmable by operator.
- Film thickness conversion function from sheet resistance
- Measurement data base link with Excel via CSV format file
- Software language can be switched in English / Japanese by operator
- Complies with the following ASTM & JIS
  <JIS> JIS H 0602-1995, JIS K 7194-1994
  <ASTM> ASTM F 84-99(SEMI MF84), ASTM F 374-00a, ASTM F 390-11, ASTM F 1529-97

Applications

- Semiconductor materilas, Solar-cell materials (Silicon, Polysilicon, SiC etc)
- New materials, functional materials (Carbon nanotube, DLC, graphene, Ag nanowire etc)
- Conductive thin film (Metal, ITO etc)
- Diffused sample (or layer)
- Silicon-related epitaxial materials, Ion-implantation sample
- Others (*Please contact us for details)

Sample Sizes

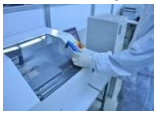
Size : ~ 8 inch, ~ 156x156mm

Thickness : ~ 2mm

Measurement Range

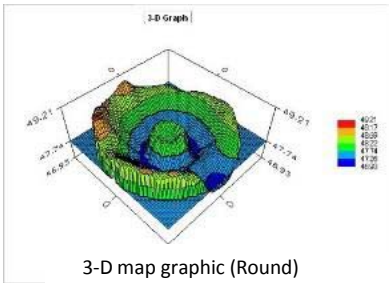
Test Item	Measurement Range
V/I Ratio	1m ~ 3M ohm
Sheet resistance	5m ~ 10M ohm/sq
Resistivity(Slice:100~2000µm)	1m ~ 300k ohm.cm

A global leading company for resistivity measurement system.

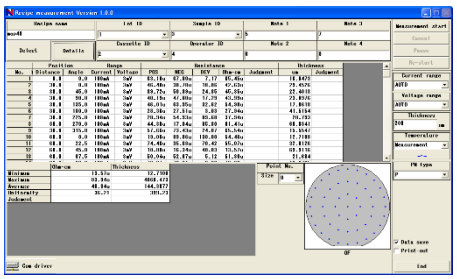


Software Function

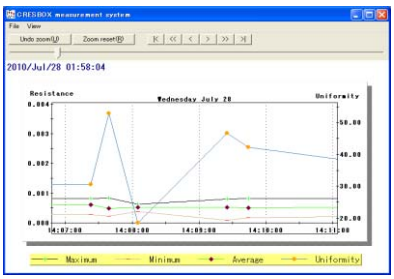
- Measurement result can be displayed by 2-D / 3-D map graphic.
- Mapping graphic can be saved by JPEG file.
- SPC Chart display function.



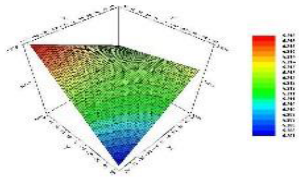
3-D map graphic (Round)



Software : Main



SPC Chart display



3-D map graphic (Square)

Measurement Accuracy / Repeatability

Measurement Accuracy	Measurement Repeatability
%BIAS< ±1%	CV ≦ 0.7%
%BIAS = $\frac{\overline{X} - NIST\text{guaranteedvalue}}{NIST\text{guaranteedvalue}} \times 100[\%]$ $\overline{X}$ ----- Average of same point x 10times measurement(23℃)	CV = $\frac{\sigma}{\overline{X}} \times 100[\%]$ σ ----- Standard deviation of same point x 10times measurement(23℃) $\overline{X}$ ----- Average of same point x 10times measurement(23℃)

Throughput (Tact time)

Points	Tacttime	Time / Point
1	16s (±3s)	16s
5(+)	25s (±3s)	5s
5(−)	25s (±3s)	5s
9(+)	34s (±3s)	3.8s
17	48s (±3s)	2.7s
49	110s (±3s)	1.9s

*Throughput will change by setting conditions, resistance value and the sample surface state.

*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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