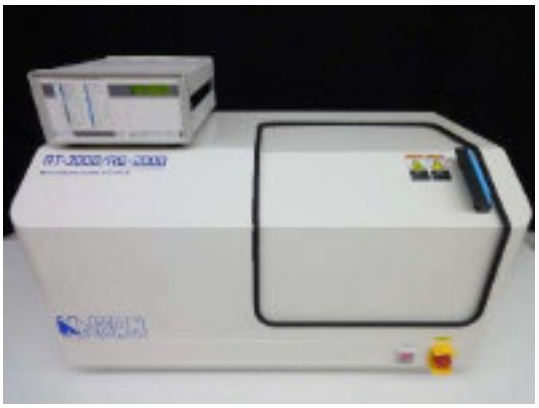
NAPSON CORPORATION

The Pioneer
for Sheet resistance/ Resistivity
measurement

# Model : RT-3000/RG-2000

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





## High performance & Wide range semi-automatic measurement system

## 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
- 2 types measuring tester (*Choose 1 type from followings)
  1. RT-3000(S): Standard type
  2. RT-3000(H): High range resistivity meas. type
- Complies with the following ASTM & JIS
  <JIS> JISH 0602-1995, JISK 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

*Option [Large size stage: Model RG-3000];
Size: ~ 12 inch, ~ 210x210mm

### Measurement Range

| Test Item | Meas. Range : RT-3000(S) | Meas. Range : RT-3000(H) |
|---|---|---|
| V/I Ratio | 1m ~ 3M ohm | 10m ~ 250M ohm |
| Sheet resistance | 1m ~ 10M ohm/sq | 10m ~ 1G ohm/sq |
| Resistivity (*Total range by Bulk, Layer & Slice mode) | 1μ ~ 1M ohm.cm | - |

A global leading company for resistivity measurement system.

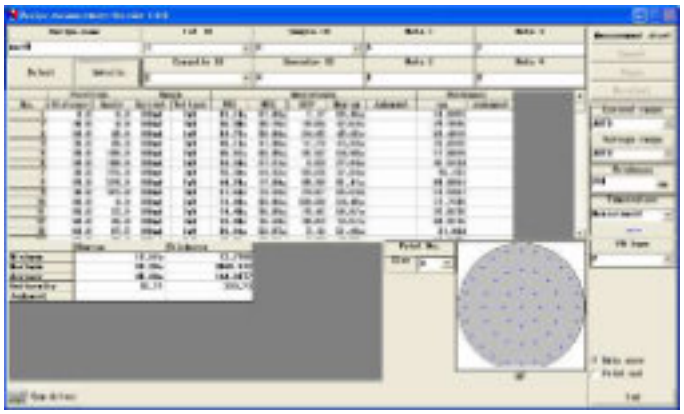






## Software Function

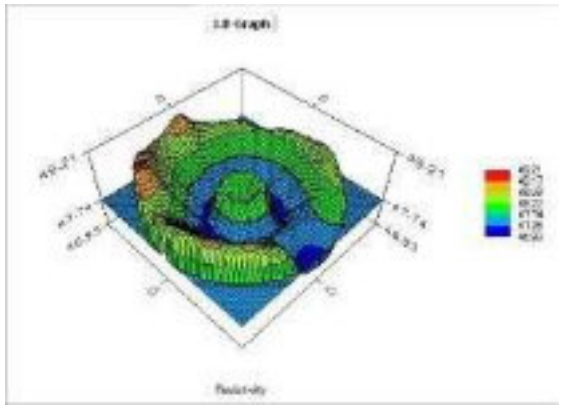
- Measurement result can be displayed by 2-D / 3-D map graphic.
- Mapping graphic can be saved by JPEG file.
- SPC Chart display function.



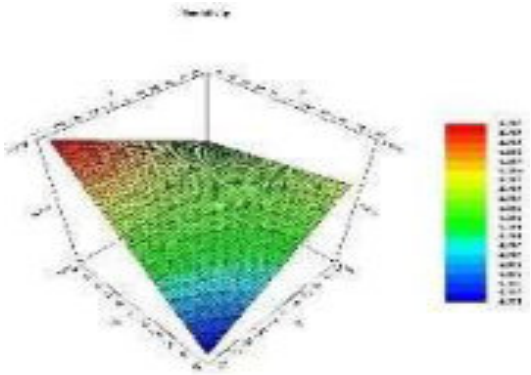
Software : Main



SPC Chart display



3-D map graphic (Round)



3-D map graphic (Square)

## Measurement Accuracy/ Repeatability

| Measurement Accuracy | Measurement Repeatability |
|---|---|
| %BIAS < ± 1.41 % | CV≦ 0.7% |
| $\%BIAS = \frac{\overline{X} - NIST\,guaranteed\,value}{NIST\,guaranteed\,value} \times 100[\%]$ | $CV = \frac{\sigma}{\overline{\overline{X}}} \times 100[\%]$ |
| $\overline{X}$ ----- Average of same point x 10 times measurement (23°C) | σ ----- Standard deviation of same point x 10 times measurement (23°C)<br>$\overline{\overline{X}}$ ----- Average of same point x 10 times measurement (23°C) |

*Uses NIST and/or VLSI standard wafer for guarantee above items.

*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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