NAPSON CORPORATION

The Pioneer
for Sheet resistance/Resistivity
measurement

Model : FLA-200

Semi-automatic non-contact wafer flatness measurement system

Measures Thickness, TTV, Bow, Warp and site and global Flatness (ASTM compliance) by Non-contact

Features

- Measures Thickness, TTV, Bow, Warp and site and global Flatness (ASTM compliance)
- High accurate 5 mm in diameter core capacitance sensors
- Full 500 micron thickness measurement range without re-calibration
- Max. 12,000 sites measurement in 1 minute
- 2-D /3-D Mapping software
- Measurement data base link with Excel via CSV format file
- <Option> FLA-300 : For up to 300mm wafer size

Applications

- Material : All semiconducting and semi-insulating wafers including Si, GaAs, Ge, InP
- Surfaces: As-Cut, Lapped, Etched, Polished, Patterned
- Flat/Notch : All SEMI Standard Flat(s) or Notch
- Wafer Mounting : Bare Wafer, Sapphire/Quartz base, tape

Sample Sizes

Size : 75 ~ 200mm(3 ~ 8inch)
[*FLA-300 : 150, 200, 300mm(6, 8, 12inch)]

Measurement Range

Measurement Item	Measurement Range
Thickness	200 ~ 1200 µm
BOW	+/- 350 µm
WARP	350 µm

<Site data> Thickness (Center, Max, Min, Ave), SBID, SBIR, SF3D, SF3R, SFLD, SFLR, SFQD, SFQR

<Global data> GF3D, GF3R,GFLD, GFLR, Bow-3P, Bow-BF, Warp-3P, Warp-BF, Sori-3P, Sori-BF, FPD%, Taper, Roll off

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.

Site No.	Center Position		Thickness				SBID	SBIR	SF3D	SF3R	SFLD	SFLR	SFQD	SFQR
	X	Y	Center	Max	Min	Ave								
1	-35.00	-85.00	748.00	748.21	747.78	747.98	-0.22	0.43	-0.22	0.40	-0.23	0.41	0.02	0.03
2	-25.00	-85.00	748.21	748.33	748.15	748.23	0.12	0.18	0.10	0.19	0.11	0.19	-0.03	0.06
3	-15.00	-85.00	748.16	748.25	747.99	748.14	-0.17	0.26	-0.14	0.20	-0.15	0.21	-0.02	0.03
4	-5.00	-85.00	748.06	748.12	747.92	748.01	-0.14	0.20	-0.13	0.17	-0.14	0.18	0.02	0.03
5	5.00	-85.00	748.05	748.09	747.94	748.03	-0.11	0.15	-0.14	0.20	-0.14	0.21	0.03	0.05
6	15.00	-85.00	748.10	748.13	748.00	748.08	-0.10	0.12	-0.07	0.11	-0.08	0.12	-0.04	0.05
7	25.00	-85.00	747.98	748.11	747.93	748.01	0.14	0.18	0.11	0.15	0.11	0.16	0.02	0.03
8	35.00	-85.00	747.87	748.10	747.62	747.84	-0.24	0.47	-0.26	0.51	-0.27	0.52	0.03	0.05
9	-55.00	-75.00	748.45	748.66	748.23	748.44	-0.21	0.42	0.20	0.39	0.21	0.41	-0.03	0.04
10	-45.00	-75.00	748.43	748.54	748.27	748.43	-0.16	0.26	-0.14	0.22	-0.15	0.23	0.04	0.08
11	-35.00	-75.00	748.44	748.53	748.35	748.45	-0.10	0.19	0.12	0.19	0.12	0.19	-0.02	0.04

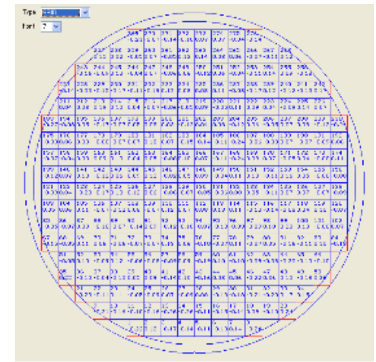
Thickness	Judgment
Center	NG
Maximum	NG
Minimum	NG
Average	NG

Item	Judgment
SBID	OK
SBIR	OK
SF3D	OK
SF3R	NG
SFLD	OK
SFLR	NG
SFQD	OK
SFQR	OK

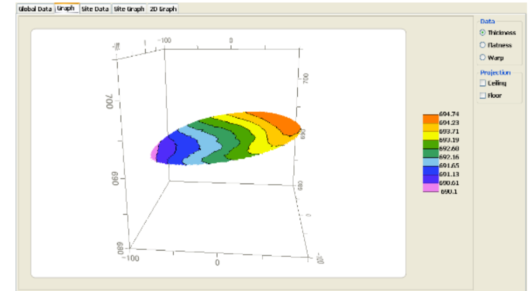
Item	Data	Judgment
SFPD%	46.01	OK
STIR%	100.00	NG

Image

Software : Main



Site data image



2-D map graphic

Measurement Accuracy / Repeatability

Measurement Item	Accuracy	Repeatability
Thickness (ASTM F533)	+/-0.5µm	0.15µm
TTV (ASTM F657)	+/-0.5µm	0.15µm
Bow (ASTM F534)	+/-3µm	1µm
Warp (ASTM F1390)	+/-3µm	1µm
Flatness [site] (ASTM F1530)	+/-0.15µm	0.05µm
Flatness [global] (ASTM F1530)	+/-0.15µm	0.05µm

*Repeatability = σ (10 times measurement)
*Site size X,Y = Select from 8 mm ～ 30 mm settings (by 0.1mm unit)
*Above value is based on the measurement by Napson samples.

Throughput (Tact time)

Measurement Points	Throughput
12,113 points (4mm spacing)	approx. 58 sec
10,111 points (5mm spacing)	approx. 53 sec
5,406 points (10mm spacing)	approx. 41 sec

*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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