QUATEK



Resistance & Thickness

Small foot print model of semi-automatic 4 point probe sheet resistance/resistivity measurement Napson Cresbox

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

Measuring range

[R] 1m~300k Ω • cm

[RS] 5m~10M Ω/sq

- ~ 8 inch, ~156 x 156mm
- User programable measurement pattern & programmable measuring pattern Tester self-test function, wide measuring range
 - Thickness, edge, temperature correction for
 - silicon wafer Film thickness conversion function from sheet resistance

Non-contact sheet resistance multi-points measurement system with wide range Napson NC-80MAP

Applications

Semiconductor materials, Solar-cell materials (Silicon, Polysilicon, SiC etc); New materials, functional materials (Carbon nanotube, DLC, graphene, Ag nanowire etc) Conductive thin film (Metal, ITO etc); Silicon-related epitaxial materials, Ion-implantation sample; Chemical compound semiconductor (GaAs Epi, GaN Epi, InP, Ga etc); Others (*Please contact us for details)

Sample sizes 2~8 inch (Option; 12 inch)

Measuring range

[[R] 1m ~ 200 Ω • cm [RS] 10m ~ 3,000 Ω/sq

- Possible to measure wide range of sheet resistance by installing Max. 4 probes
- Min. 7 mm position from edge can be measured User programable measurement pattern &
- programmable measuring pattern
- *Option: thickness measurement probe (for silicon wafer)

Hand held probe type eddy current sheet resistance/resistivity measurement instrument Napson EC-80P

Applications

Semiconductor materials, Solar-cell materials (Silicon, Polysilicon, SiC etc);

New materials, functional materials

(Carbon nanotube, DLC, graphene, Ag nanowire etc) Conductive thin film (Metal, ITO etc);

Silicon-related epitaxial materials, Ion-implantation sample; Chemical compound semiconductor (GaAs Epi, GaN Epi, InP, Ga etc); Others (*Please contact us for details)

Sample sizes

Any size and shape can be measured (*Larger than 20mm and measurement plane must be flat)

[[R] 1m ~ 200 Ω · cm [RS] 10m ~ 3,000 Ω/sq

- Auto-measurement start by probe head contacting to sample
- ÷. 3 measurement modes for wafer resistivity, bulk resistivity and sheet resistance
- Easy set up to measurement condition by JOG dial
- 5 types of model for each measuring range
- Resistivity probe can be changed by sample's resistivity range

Semi-auto 4 point probe measurement system for Flatpanel display Napson RG-200PV

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

156x156mm or other size

Measuring range

[R] 1.00μΩ.cm~100.0kΩ.cm [RS] 1m~10m

- Measurement system for thin film on substrate samples for multi-points measurement
- Even pitch and random pitch for Max.1,000 points
- 2-D/3-D square mapping software for even pitch

Hand held Sheet resistance measurement instrument [Replaceable probe set (Non-destructive probe & Contact probe)] Napson DUORES

Applications

Any sample within the measurement range can be measured. (Films, Glass, Papers etc) •Thin-film (ITO, TCOetc) •CNT(Carbon nanotubes), Graphenmaterials

•Metals (nano-wires, grids, meshes, thin films)

Sample sizes

Any size and shape can be measured.

(*Larger than measurement spot size)

<Measurement Spot size>

- Non-destructive probe(Eddy current type) : φ25mm · Contact probe(4point probe type) : 9mm
- Measuring range
- Non-destructive probe(Eddy current type) : 0.5 -200 Ω/sq
- Contact probe(4point probe type): 0.1 -4000 Ω/sq
- Easy to measure sheet resistance & carry around
- Replaceable hand-held probes for Non-destructive & Contact type
- <NAPSON Original Technology> Replaceable hand-held probes for 2 kinds of measurement methods <1> Non-destructivetype(Eddy current method)
 - <2> Contact type(4point probe method)

•Auto-measurement start by probe head unit put on/probe contact to sample •Long-battery run time : 24h (*Battery-operated mode)

·Measurement data display : Max.100 data

•Measurement data save : Max.50,000 data

·Measurement data transfer by USB-Mini

•Measurement unit : Ω/□, S/□,n/m

·Data displayed by 4 digit floating decimal point

*Mainbody+Non-destructive probe set, Mainbody+Contact probe set are also available.











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Measuring range

Global standard model for 4 point probe sheet resistance automatic measurement system Napson RT-3000/RG-1000F

Applications

Conductive thin film (Metal, ITO etc) Silicon-related thin films (LTPS etc), IGZO

Sample sizes ~2,880 x 3,080mm



1. RT-3000/S version; [RS] 1m~10M Ω/sq

- 2. RT-3000/H version; [RS] $10m\Omega/sq \sim 1G\Omega/sq$
- Fully automatic system for large sizes of flat panel with glass loading robot
- Tester self-test function, Measurement position correction function, wide measurement range
- Min. 0.1 mm meas. resolution and user programmable test pattern
- Host (CIM) communication and 2-D/3-D Mapping software

Fully automatic 4 point probe sheet resistance system for semiconductor process evaluate Napson WS-3000

Applications

Semiconductor materials, Solar-cell materials (Silicon, Polysilicon, SiC 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 300mm (and/or Optional 200mm)

Measuring range [RS] 1m~10M Ω/sq

- Automatic probe head selection(exchanger) among 4 kinds of probe head
- [No need to exchange a probe head by each different sample measurement]
- Edge 1mm measurement is available by dual meas. mode
- High cost performance from high speed measurement
- FOUP compatible, GEM / SECS compatible

Fully automatic non-contact sheet resistance measurement system for flatpanel display NC-60F/RS-1300N

Applications

Conductive thin film (Metal, ITO etc)

Sample sizes 2,880 x 3,080mm

Measuring range

[RS]



<1. for ITO> 5~800 Ω/sq

- <2. for Metal thin film> 10m ~ 10Ω/sq
- [ITO film thickness] 20 nm (200A)~500 nm (5,000A)
- Global standard for non-contact measurement of ITO film, Metal thin films on flat panel and backside film
- Automatic X-Y and Z (eddy current probe head) axis moving mechanism
- Compatible with Loading robot for fully automatic measurement
- Option :Integlate to combined system (film thickness meter, etc)
- Add 4 point probe measurement unit : RT-3000

Resistance & Thickness

Non-contact measurement wafer sorting system (Belt drive tranceportation) Napson NC-6800 + TTV

Applications

Semiconductor materials, Solar-cell materials (Silicon, Polysilicon, SiC etc)

Sample sizes 3 ~ 8 inch

Measuring range

[R] 1m ~ 200Ω • cm [Thickness] 150 ~ 800μm (300μm between 150 and 800μm is recommended)

- Non-contact measurement of resistivity, thickness and conductivity (P/N)
- Number of cassette station can be changed by customers request
- Eddy current method for resistivity, Electric capacitance method for wafer thickness
- Temperature correction for silicon wafer function

Non-contact measurement wafer sorting system (Robot hand tranceportation) NC-3000R

Applications

Semiconductor materials, Solar-cell materials (Silicon, Polysilicon, SiC etc)

Sample sizes

6 ~ 8 inch, or 12 inch

Measuring range [R] 1m ~ 200Ω • cm

[Thickness] 150 ~ 800µm (300µm between 150~800µm)

- High accuracy measurement system for large diameter wafer
- Non-contact measurement of resistivity, thickness and conductivity (P/N)
- Compact design of Two-stage by measuring area and transfer area
- Number of cassette station can be changed by customers requestOption : Add wafer flattness measurement system(FLA-200)

Fully automatic(robotic transfer) 4 point probe system for silicon wafer Napson WS-8800

Applications

Semiconductor materials, Solar-cell materials (Silicon, Polysilicon, SiC etc) Others (*Please contact us for details)

Sample sizes 3 ~ 8 inch (or 12 inch)

Measuring range [R] 100μ ~1M Ω · cm [RS] 1m~10M Ω /sq

- Measurement of resistivity, thickness, conductivity(P/N) and temperature
- Tester self-test function, wide measuring range
- Thickness, measurement position and temperature correction function for silicon resistivity
- Number of cassette station can be changed by customers request
- Host (CIM) communication and SMIF or FOUP compatible



Others (*) Sample s 3 ~ 8 inct



Resistance & Thickness

Non-contact Inline sheet resistance measurement module for flat panel display Napson NC-600/NC-700

NC-600



Sample sizes ~ 2,880 x 3,080mm

NC-700

Measuring range

 $10 \sim 1000 \Omega/sq$ [Standard range type] (* Select a range from 1m ~2000 Ω /sq. Please contact us in details) *Numbers of probe module : Selectable

- Non-stop and non-contact sheet resistance measuring of thin film on glass runs through on conveyer
- 1 to 10 number of probe by sizes of glass is attachable
- Glass collision prevention function
- Continuous test data report to the host computer

Non-contact sheet resistance /resistivity measurement instrument Napson EC-80

Applications

Semiconductor materials, Solar-cell materials (Silicon, Polysilicon, SiC etc) New materials, functional materials (Carbon nanotube, DLC, graphene, Ag nanowire etc) Conductive thin film (Metal, ITO etc) Silicon-related epitaxial materials, Ion-implantation sample Chemical compound semiconductor (GaAs Epi, GaN Epi, InP, Ga etc) Others (*Please contact us for details)

Sample sizes ~8 inch, ~156x156mm

[R] 1m ~ 200 Ω · cm [RS] 10m ~ 3,000 Ω/sq

Measuring range

Easy operation and compact design

- Auto-measurement start by inserting a wafer under the probe
- Easy set up to measurement condition by JOG dial
- 5 types of model for each measuring range ÷.
- 4 kind of prove to meet measurement range

Life-time measurement system for silicon bulks/ingots by JIS method Napson HF-100DCA

Applications Silicon ingot, Silicon bulk, Prismatic shape (JIS code)

Measuring range 50 µS~ 20mS

- Global standard model for the lifetime test of silicon bulk
- JIS direct current anodizing method

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Data processing by digital oscilloscope and PC with software

Non-contact sheet resistance/resistivity measurement instrument with PC NC-10 (NC-20)

Applications

Semiconductor materials, Solar-cell materials (Silicon, Polysilicon, SiC etc) New materials, functional materials (Carbon nanotube, DLC, graphene, Ag nanowire etc) Conductive thin film (Metal, ITO etc) Silicon-related epitaxial materials, Ion-implantation sample Chemical compound semiconductor (GaAs Epi, GaN Epi, InP, Ga etc) Others (*Please contact us for details)

Sample sizes

3 ~ 8 inch, ~156x156mm (Option; 2 inch and/or 12 inch, ~210x210mm)

Measuring range

[R] 1m ~ 200 Ω · cm [RS] 10m ~ 3,000 Ω/sq * The range is separated from each Low, Middle, High and S-High probe type.

*Please refer the measurement range for each probe type as below;

- (1) Low : $0.04 \sim 0.5 \Omega/\Box$ ($0.001 \sim 0.05\Omega cm$)
- (2) Middle : $0.5 \sim 10 \Omega / \Box$ ($0.05 \sim 0.5 \Omega$ cm)
- (3) High : $10 \sim 1000 \Omega/\Box$ (0.5~60 Ω cm)
- (4) S-High : 1000~3000Ω/□ (60~200Ω cm)
- Easy operation and data processing by PC
- No damage measurement by non-contact eddy current method
- Replaceable probes by meas. range (*Second or more probe is for the option)
- 1 point measurement of center position
- 5 types of model for each measuring range
- Temperature correction for silicon wafer function

Life-time measurement system for silicon bulks / ingots with non-contact Napson HF-90R

Applications

Silicon ingot, Silicon bulk, Prismatic shape (JIS code)

Measuring range

[100 ~ 5,000µS (in the range of 10 ~ 5,000 $\Omega \cdot cm)$

- Silicon bulk, Prismatic shape (JIS code), Ingot condition
- Non-contact photoconduction vibration decay method

Non-Contact (Pulse-Voltage excitation method) Ultra-Low Sheet resistance measurement system Napson PVE-80

Applications

New materials, functional materials (Carbon nanotube, DLC, graphene, Ag nanowire etc) Conductive thin film (Metal, ITO etc)

Chemical compound semiconductor (GaAs Epi, GaN Epi, InP, Ga etc) Others (*Please contact us for details)

Sample sizes

Measuring range

- No damage measurement by non-contact Pulse-Voltage excitation method
- Easy to measure & carry around, Removable stage plate
- Easy operation and data processing by PC with Software
- Measurement result can shown by 3 types of measurement unit(Sheet
- resistance[Ohm/Sq], Electric conductivity[S/cm], Electrical conduction[S])
- *Pulse-Voltage excitation method : Pat. No.5386394 Joint development with Chiba Univ.



- Data processing by digital oscilloscope and PC with software

~W300 x D210mm

 $50\mu \sim 1m \,\Omega/sq$

Non-contact Ultra-High range sheet resistance measurement system Napson CRN-100

Applications

Sample sizes

Any sample within the measurement range can be measured. Thin film layer (a-Si, IGZO etc) Coating material Semiconductor material Approximate material as Insulator *Please contact us for details.



Size : Max. 300 x 400 mm (or more) Thickness : Max. 2 mm *We can design as your requirement. Please contact us for customize.

Measuring range 10E+9 ~ 10E+15 ohm/sq

- Ultra-High range sheet resistance measurement for 10E+9 ~ 10E+15 ohm/sq without contacting Mapping program software;
- 1. Arranged in a multipoint pattern measurement is programmed
- 2. 2-D & 3-D mapping software
- Easy operation by Windows 7 system software
- Measurement data base link with Excel via CSV format file Unaffected by contact resistance

Non-contact Inline resistivity measurement module Napson NC-100PV

NC-100PV is a Non-contact Inline resistivity measurement module for Solar wafer by Napson

- Possible to measure sheet resistance without contact by Max. 3 types of probes
- Suitable for production line and tranceportation system
- Connect to host PC by LAN to send measurement command and data



Silicon wafer/blick lifetime measurement Napson HF-300

Applications Silicon wafer, blick(bulk) [Mono-crystalline, Polycrystalline]

Sample sizes

[Wafer] <Square> ~ 210x210mm, <Circle> ~8 inch [Blick] Max. 210(W) x 210(H) x 500(D) mm



Measuring range

 $0.1 \ \mu S \sim 1000 \ \mu S(*Compatible to resistivity range; 0.1 \sim 1,000 \ \Omega \cdot cm)$ <Laser unit> Type : Semiconductor laser diode, Wave length : 905nm, Peak power : 60W, Pulse width : 80nS

- Non-contact, non-damage measurement by μ-PCD
- Suitable for mono-crystalline and polycrystalline silicon sample
- Multipoint measurement & mapping image
- Passivation with exclusive capsule (for wafer, bulk sample)

Resistance & Thickness

Spread resistance for slanting polished sample of semiconductor by tow kinematically-mounted probe contacting Napson SRS-2010

Applications

Semiconductor materials, Solar-cell materials (Silicon, Polysilicon, SiC etc)

Measuring range

1~10E+9 Ω[Spread restance] Carrier density range:2E+13 ~ 5E+19 cm2 [N-type silicon] 2E+14 ~ 7E+19 cm2 [P-type silicon]

 Resitivity map along with depth direction, thickness of epitaxial, depth of PN junctin and carier density profiles

measurements Napson DF-9P

DF-9P is a 9 point multi-position sheet resistance measurement system for solar cell by Napson.

- High throughput, High accuracy measurement
- Self-diagnostic test and easy maintance
- Mapping function, Pass/Fail Judgment (for the setting limit value)



Portable pen-type non-contact P/N checker Napson PN-8LP

Applications Solar wafer

Sample sizes

~ 156 x 156mm or 210x210mm

Measuring range

PN Checking range in resistivity : $0.1 \sim 100\Omega \cdot cm$

- Principle: Photovoltaic effect with the laser diode
- Suitable for production line and tranceportation system
- Connect to host PC by LAN to send measurement command and data

Non-contact conductivity type (P/N) checker for quick check Napson PN-50α

Applications

Semiconductor materials, Solar-cell materials (Silicon, Polysilicon, SiC etc)

Sample sizes more than 30x30mm

Measuring range

PN Checking range in resistivity : $0.1 \sim 1,000 \Omega \cdot cm$

- Principle: Photovoltaic effect by light pulse irradiation
- No damage and no stain by Non-contact method
- Possible to check even oxidized film on wafer surface
- Instantly discrimination by optical pulse illuminate



Resistance & Thickness

Conductivity type (P/N) checker by Contact thermo-electromotive force method (seebek effect) Napson PN-12α

Applications

Semiconductor materials, Solar-cell materials (Silicon, Polysilicon, SiC etc)

Sample sizes more than 2 inch



PN Checking range in resistivity : $1m \sim 20k \Omega \cdot cm$ *Polycrystalline silicon、thin film on wafer、MultiOxidized film on wafer surface are can not judgement

- Thermo electrode and cold electrode is mounted detecting part of measuring probes
- Possible to check most figure of sample such as single crystalline silicon wafer,
- bulk, ingot and so on
- *Please select from 2 types;
- 1) 2 probe ver.(Hot probe, Cold probe),
- 2) 1 probe ver.(Hot & Cold probe)

Non-contact sheet resistance multi-points measurement system with wide range Napson NC-80MAP

Applications

The probe type is chosen under the material of measuring sample, the surface state, the form etc.

Measurement sample	Probe head(Material/Radius)	Load/Needle
Silicon Ingots / Block	TC-40u	200g
Silicon Slice	TC-40u	200g
Epitaxial Layers	TC-150u	100g
Epitaxial Layers (Thin film)	TC-150u, 500u	50g
Shallow Diffused -layers (Thin film)) OS-200u, 500u	50g
Diffused Layers	OS-200u, TC-150u	100g
Ion Implantation	TC-150u	50g, 100g
Metal (Thin film)	TC-150u, 500u	25g, 50g, 100g
ITO layer	TC-150u, 500u	25g, 50g, 100g

*The other types are available.

- *If you would like to have a special spec, contact us.
- <Specifications>
- e.g) TC-40u-200g/1.00mm

- Needle Material: TC [Tungsten carbide] (or OS: Osmium alloy)

- Radius:
- 40 um (25 um to 500 um) - Loads (g/needle):
- 200 g (10g to 250g) Spacing:
- 1.00 mm (0.5 mm to 1.59 mm)

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- Arrangement:
- Linear (standard) (Square is available)
- Napson 4-point resistivity / sheet resistance systems are using high performance probe heads which are made by Jandel Engineering Limited of England.
- Jandel probe head performs high precise measurement of resistivity and sheet resistance for silicon wafers, epitaxial layers, diffusion layers, ITO layers, metal layers and more, so that Jandel probes have a good evaluation for many years.
- *Load (needle pressure) is always suitable since using V type spring
- *Probe spacing accuracy and probe stability is excellent since anodized aluminum alloy upper and lower guides are jeweled
- *Less damage of probe needle tips Solid tungsten carbide needles for superior durability

Wafer flatness measurement system Napson FLA-200(FLA-300)

Applications

Semiconductor materials, Solar-cell materials (Silicon, Polysilicon, SiC etc) Silicon-related epitaxial materials, Ion-implantation sample Chemical compound semiconductor (GaAs Epi, GaN Epi, InP, Ga etc)

Sample sizes

3~12 inch

Measuring range

Thickness: 200 -1200µm Bow : +/-350µm Warp: 350µm



- Measures Thickness, TTV, Bow, Warp and site and global Flatness (ASTM compliance)
- Measures all materials including Si, GaAs, Ge, InP, SiC
- Full 500 micron thickness measurement range without re-calibration
- 2-D /3-D Mapping software

Nozzle Repair Ser Quotation QTI-RM-120/920Avice

Providing the Repair Spinning Nozzle Service for FPD:

- Support Nozzle including: DNS, DNS (Hirata) Tazmo, Toray, Chugairo
- Repair in Japan, Polish all 5 sides
- We are the only one in Asia to bought Carl Zeiss PRISMO:6000*3200*2000
- Detail report included
- Defects less than 5mm we can repair
- Extend the Nozzle Life time
- Cost saving

Manual four point probe sheet resistance/ resistivity measurement Napson **ŘT-70V** series

Applications

Semiconductor materials, 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 thin films (LTPS etc), IGZO Silicon-related epitaxial materials, Ion-implantation sample Chemical compound semiconductor (GaAs Epi, GaN Epi, InP, Ga etc); Others (*Please contact us for details)

Sample sizes *Depends on measurement stage. Up to <Circle> 300mm(12 inch) or

Measuring range [R] 1µ~3M Ω • cm [RS] 5m~10M Ω/sq

- Combinational measurement system by Measurement tester(RT-70V) & Stage. <Measurement tester ; RT-70V >
- Thickness input with easy JOG dial operation (RT-70V Tester) Tester self-test function/Auto change-over measurement range function
- <Measurement stage>
- *You can choose from following stage models by your purpose & applications. (1) RG-7C [Image of Product ; upper left] : Electric probe up-down stroke. (2) RG-5 [Image of Product ; lower left] : Manual probe up-down stroke by handle lever.

(3) RG-7S [Image of Product ; upper right] : Electric probe up-down stroke for Glass or Film sample using X-Y universal stage.

(4) TS-7D [Image of Product ; lower right] :Hand held four point probe measurement instrument. *Stage plate is an option.















Resistance & Thickness & Spectral Optical Spectrometer

Manual Analyze Probe Station PG101W

Feature

Compact size, light weight, cost effective Different type of probe and chuck for each applicationSuitable from 4" to 8" wafer Useful in R&D center and lab

Application

LED wafer & chip charaterise LD/PD and other optical electronical device charaterise Discrete device / MEMS semiconductor device charaterise Other composite functional material /ceramic material/semiconductor material charaterise

LED Plant Light Spectrometer Optimum -PL-6000

- Using integrating sphere as light entrance port, consist perfect consine effect at different angel
- Unique long focal length, high precision spectrometer for measurement
- Fast booting level, can perform instant measurement, no unnecessary action, measurement result is real time display
- Huge storage capacity, can connect to PC to export the data, transfer and remote operation control
- Simple operation with accurate measurement, R1-R15 measurement are clearly shown
- Spectral wavelength resolution 0.5nm, half-wavelength width resolution 1.0nm
- The only instruments measure irradiance/Radiant in the world

Spectral Irradiance Meter Quotation SRI-MD-3000

- Meet medical lamp specification
- Unique long focal length, high precision spectrometer for measurement
- Fast booting level, can perform instant measurement, no unnecessary action, measurement result is real time display
- Can be sub-band measurement to calculate the light irradiance Simple operation with accurate measurement,
- R1-R15 measurement are clearly shown Spectral resolution 0.5nm, FWHM resolution 1.0nm

Semi-Automatic Prober Pegasus PG2000C

The Pegasus PG2000 is specifically designed for production probing applications involving semiconductors, LEDs and MEMS devices. jyhfrequirement by way of its area-scanning technology to probe LED die mounted onto blue tape/ ring carries.

- Easy Operation and fast throughput
- Dark box design that avoid the disturbance from environmental lights
- CCD scanning system enables the fast wafer leveling and chip probing location
- Friendly Window system operation software with Chinese/English display and real-time Mapping
- Manual wafer load and auto wafer scan. Chip probing
- Fast Simultaneous XY motion for increased throughput
- Accurate Advanced controller software addresses intrinsic stage errors
- Easy-to-Use Simple push-button control and menu-driven operation
- Versatile Ideal for production probing, especially LED and MEMS, and characterization
- Compatible Interface compatibility with most test environments
- Robust Reliable, heavy-duty performance
- Easy Maintenance System diagnostics for easy and quick maintenance and repair

Resistivity Measuring Instrument Quotation 5601TSR / QT-50

4 POINT PROBE sheet resistance measurement system is consist of 5601TSR sheet resistance tester and QT-50 manual test stage. This system use the 4 Point Probe principle to measure the sheet resistance and resistivity.

The measurement sample could be wafer, ITO and other semiconductor materials. The dimension of sample could be square or circle. The machine is small, potable and easy opertion. Option: QT-60 large manual test stage, QT-70 auto test stage and ST-610A handheld probe.

5601TSR sheet resistance tester

Maximun Display:	150000(sheet resistance Ω/\Box)/33000(normal resistance Ω)	
Sampling Rate:	4 samples/sec	
Display:	6 digits, LED dispaly	
Overload Indication:	"00000" Flashing	
Range selection:	Manual or Auto	
Overload protection:	AC 330Vrms	
Working voltage:	AC90V~264V, 50/60Hz<15VA	
operating temperature:	0~50°C, RH≦80%	
Communication interface:	RS232, RS485	
Baud rate:	1200/2400/4800/9600/19200/38400/57600/115200	
Dimension:	208x 91x 280mm	

QT-50

- Manual machines under pressure leverarm positioning function for detecting
- Needle pressure: Change the pressure by external additive
- weight 50~500g
- Dimension: 300x250x200mm
- Test stage size: 156x156, 6" wafer
- Weight: 7kg



Spectral Light Meter Quotation SRI-2000

- Using integrating sphere as light entrance port, consist perfect consine effect at different angel
- Unique long focal length, high precision spectrometer for measurement
- Fast booting level, can perform instant measurement, no unnecessary action, measurement result is real time display
- Huge storage capacity, can connect to PC to export the data, transfer and remote operation control
- Simple operation with accurate measurement, R1-R15 measurement are clearly shown
- Spectral wavelength resolution 0.5nm, half-wavelength width resolution 1.0nm
- The only instruments measure irradiance/Radiant in the world

Non-contact sheet resistance multi-points measurement system with wide range Quotation RST-100

RST-100 LCD resistance measurement system, in response to the needs of the LCD industry, quality control system designed and developed measuring instruments. The use of convenient operation of the fixture and precision instrument processing of liquid crystal dish, and with world-class ultra-high resistance (50T ohm) form. An indispensable tool for measuring the resistivity of Liquid Crystal materials.

Application

Measurement for the electrical conductivity of the liquid crystal material.

Qualitative control of the liquid crystal material.

Characteristic

Can match various kinds of high Resistance measuring instruments.

Standard fixture, just only set the basic parameter of the liquid resistance .

It can isolate the noise of connection and The interference of the environment.

Easy to use; easy to connect, difficult to break, cheap.











Double-sided Semiautomatic Probe Station Pegasus PG2000D

PEGASUS PG2000D is developed for testing components such as DIODE, TVS, MOSFET and IGBT wafers. That is a probe station with a double-sided, four-wire probe structure.

The structure eliminates impedance problem on the probe platform and minimizes the effect on test results. It makes the component under test to be closer to the engineering design requirements

- Robust housing and compact size
- Supports Windows system, English software interface, real-time mapping graph display
- Easy-to-use control console and joystick
- High-precision drive motor provides stable and quiet operating environment
- Easy-to-maintain modular electronic control mechanism ×. Double-sided probe structure to improve test circuit impedance.
- Test current up to 30A ×.
- Applicable to 3" ~ 8" wafers .
- Customized designs available
- Standard TTL and RS232 communication interface for variety of testers
- Excellent probing speed and probe marks .

emi-auto High Power COB LED **Testing system** Pegasus PG2301



- Special probe card design, easy to exchange. Suitable for measuring optical and electrical
- properties on various sizes of COB products. Accurate X, Y, Z axis control.
- Using integrating sphere for COB LED testing ×. Integrate with GAMMA spectrometer and
- Keithley source meter
- Simple and easy software interface.

ully-auto Double Side **Probe Station** Pegasus FAPG150

PEGASUS FAPG150 is develpoed for testing components such as DIODE, MOSFET and IGBT wafers. PEGASUS FAPG150 is a probe station with double-sided automatic probe structure. A robot arm automatically picks up a wafer to pre-aligner and to the probing position. The circular chuck plate provides a stable and fast test environment. For different applications, it is possibleto set the optimal probing speed and probe mark. Customized designs are also available on request.

- Simple operation interface and joystick design ×.
- Wafer mapping creation and editing functions
- ×. Easy-to-use English Windows user interface
- Different product profiles can be created
- ×. Two cassettes can be placed at the same time
- ×. Pre-aligner for wafer alignment
- Customized designs available

QUATEK

- Selectable 4" or 6" chuck plate ×.
- ×. Excellent probing speed and probe marks
- Automatic wafer alignment and search for the initial die
- ×. Easy-to-maintain modular electronic control structure
- ×. Standard TTL/RS232 communication interface for varietyof testers
- High-precision drive motor provides a stable and quiet operating environment

Semi-Automatic flip Chip Probe Station Pegasus PG2101

- Fit for any kind of LED chip testing, including red/yellow/blue/green dies and flip chip type
- Easy operation cover can shield the light to reduce the effect for test
- One button to do alignment, scan and test max 6" scanning areas for diced wafer with max 80mil x 80mil die
- Friendly operation only by a joystick and simple push-buttons on the key board panel
- Support 2 Inkers to provide real-time inking Quiet and low vibration motion control system
- provides a non-noise operation environment
- Avoid Environment-light by an easy-lift dark box
- . Standard TTL and RS232 interface for all kinds of tester
- Window Operation System easy for wafer mapping and data on the display
- Fast area-scanning technology for accurate die location on the diced wafers High stable manipulator with a sensitive Edge Sensor provides tiny probe marks
- Support 4 Edge sensor manipulators. Removable probe holder easy to change needles

Hot Chuck Pegasus Hot Chuck

- Stable temperature control
- High-precision heating plate cooling pipe
- . Flatness platform
- Customizable vacuum hole
- High cost performance product

Manipulator Integrated Probe Pegasus Edge Sensor

- Replace the high cost probe cards that can only be used for specific dies
- Can adjust the appropriate power for different test needs
- Accurate adjustment base can be quickly adjusted according to different chip sizes
- Different test currents can also be easily replaced with different thickness probes
- It is easy to replace the probe and save test costs

Table-top atomic force microscope AFMWorkshop TT-AFM

- Standard Scanning Modes:
- Scanners: 50 X 50 X 17 microns, 15 X 15 X 7 microns.
- Video Optical Microscope:
- Zoom to 400X, 1.5 micron resolution

Nanoprofiler AFM AFMWorkshop NP-AFM

- .
- Three sample stage options to accommodate substrates up to 200mm X 200mm X 20mm
- Includes vibrating and non-vibrating topography modes, plus lateral force and phase mode imaging









- - Stage and Ebox Size: Compact Tabletop Design



- Integrated high resolution video microscope



- Linearized xy piezoelectric scanner
- Accommodates standard-sized AFM probes
- Utilizes a direct drive motorized probe approach
- Captures images with intuitive LabVIEW-based software





Scanning Analysis AFM **AFMWorkshop SA-AFM**



- Scans any sample size ÷.
- Adaptable to inverted microscopes
- Linearized xy piezoelectric scanner ÷.
- Accommodates widest range of standard AFM probes
- All standard modes, including vibrating, non-vibrating, and phase н.
- Direct drive motorized probe approach н.
- Intuitive LabVIEW-based software for image capture

FM-JX 100

- High-speed spectral transmission technology ÷. for microsecond spectral detection
- Low spurious technology
- Full spectrum technology with wide spectrum coverage of 320 ~ 1100nm
- UV sensitization technology enables deep ultraviolet spectroscopy detection
- Spatial resolution: minimum 5X5um²



AFM FM-Nanoview-OP-AFM

- Standard operating modes: contact mode, tapping mode, phase imaging mode, elevation mode, lateral force/friction mode, magnetic and electrostatic force modes, force curve/ force spectrum measurement
- Optional working mode: profile line measurement mode, quick access to nanometer long contour profiles
- AFM mainframe: integrated design, gantry scanning head structure, marble base Z-axis lifting device: The motor automatically controls the probe to vertically
- approach the sample scan and precisely positions the scanning area
- Sample mobile station: 300×300mm large-stroke two-dimensional electric sample mobile station for quick selection of sample area of interest
- Stage: Diameter 300mm Large sample stage with vacuum adsorption
- . Scanner: 100×100um large-scale high-precision closed-loop translational piezoelectric scanner, standard grating calibration accuracy
- . Electronics Controller: Modular electronic controller for lifetime maintenance and improvement
- Auxiliary optical observation system: high magnification optical positioning CCD observation system, real-time observation and positioning probe sample scanning area
- Probes and accessories: standard contact probes, tapping probes, standard grating samples and a complete set of professional tools
- Shockproof device: closed metal shield, pneumatic shock absorber platform, strong anti-interference ability
- Software system: integrates multiple operating mode control software, powerful analysis software, free lifetime upgrade

Deep Level Transient Spectroscopy PhysTech FT1230

Deep Level Transient Spectroscopy is an important technique for semiconductor research and detection of semiconductor impurities, deep defect levels and interface states. According to the transient state of the semiconductor PN junction, the transient capacitance ($\Delta C \sim t$) of Schottky junction and the emissivity window of deep level transient spectrum (DLTS), the transient state spectrum of deep level is measured. Is a high sensitivity test method that can detect trace impurities in semiconductors, deep defects and interface states. By scanning the temperature of the sample, it is possible to give a DLTS spectrum that characterizes impurities, deep defect levels and interface states with temperature (ie, energy) distribution within the bandgap of the semiconductor.







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V1.0C 2018.07

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