Pan Solution Technologies

Crystal Quality Measurement Device for Semiconductors

VWECER-2000

Fast measurement time
Clear measurement results
Comprehensive evaluation of crystal quality

VWECER-2000 can be comprehensively evaluated the quality of wafers.
The measurement results accurately reflect the electrical effects of surface and internal defects and impurities that were previously difficult to measure.

Device Specification		Measurement Performance	
Size	W:600×D:900×H:700 mm	Measuring time	10sec or less / point
Weight	50 kg	Measuring method	Probe contact type
Power	Single-phase AC90 - 240V	Sample Size	Up to 12inch
Operating Environment	Temperature and Humidity 25±5℃・≦85%RH	Measuring object	p/n type Monocrystal Resistivity up to 20.0 Ω・cm

By parameters that correlate with crystal quality,

- confirms the quality of the wafer surface and inside
- confirms process of cutting and lapping
- confirms cleaning process

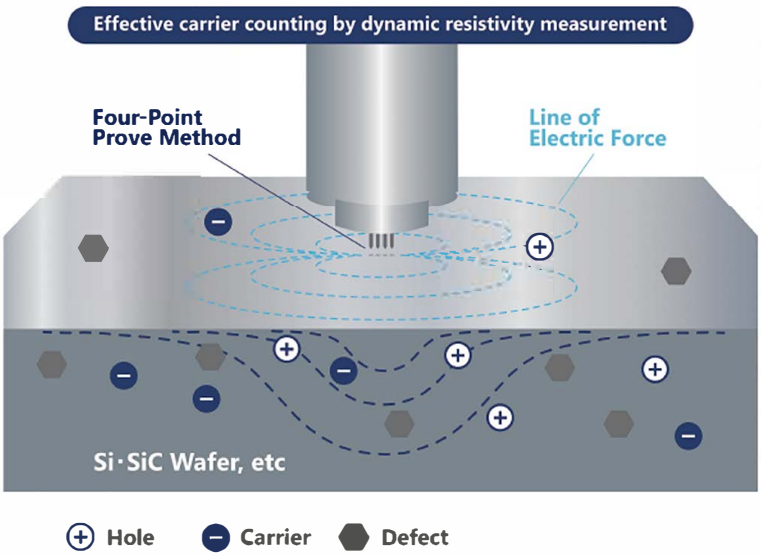
What we do

Upgrade

- ☑ Wafer Quality Assurance
- ☑ Development Efficiency
- ☑ Defective Rate

New Evalution Technology

HS-CMR High Speed-Current Modulating Resistivity Method



The resistivity profile obtained by applying a variable current includes information such as wafer contamination, defects, and number of effective carriers.

Unique technology for measuring effective carrier number by dynamic resistivity measurement.

HS-CMR method is a new technology developed by the Institute for Materials Research, Tohoku University that integrates a four-point probe resistivity measurement method with a new theory.
We focus on the fact that the resistivity obtained by four-point measurement contains various information on crystals and evaluate crystal quality by acquiring resistivity profiles while changing the applied current at high speed and analyzing them using our original algorithm. This method accurately reflects contamination and mechanical damage on the wafer surface, and the effects of internal crystal defects and impurities, making it possible to evaluate wafer quality comprehensively.
The probe contact type measurement is less susceptible to particles on the wafer surface.
Information such as quality factors and resistivity obtained by measurement can also be used to improve crystal growth technology, slicing technology, texturing, and wrapping technology, etc.

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