

Confirming the quality of received products and the condition of organic cleaning

Confirming the cleaning status and cleaning solution deterioration

Confirming the texture effect and etchant deterioration



Upgrade

- ✓ Conversion efficiency
- ✓ Development efficiency
- ✓ Defective rate

New Evaluation Technology

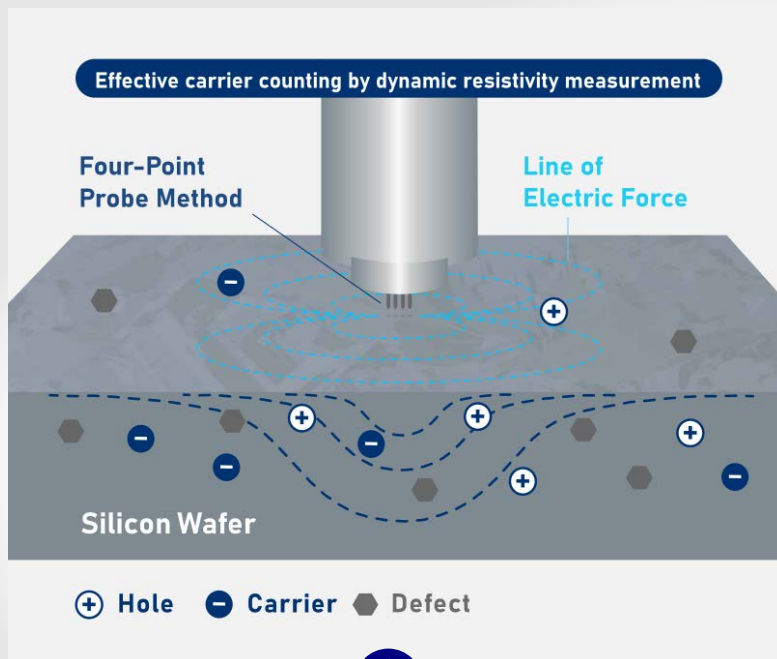
## HS-CMR

High Speed-Current Modulating Resistivity Method

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

The HS-CMR method is new crystal quality measurement technology developed from the Institute for Materials Research, Tohoku University. The HS-CMR does not use carrier lifetime mapping or diffusion length mapping that has been used in the past, and has been designed by comprehensively considering various problems caused by the thermal processes of semiconductor crystal wafers and subsequent device manufacturing processes.

The HS-CMR method uses the four-point probe method to measure the resistivity while changing the current with our own proprietary algorithm. With this method, the HS-CMR method can measure the "effective resistivity". The effective resistivity is a value that reflects the total number of minority carriers and majority carriers that are not trapped by crystal defects or impurities. The HS-CMR method can obtain a single quality factor that accurately reflects the quality of the wafer by comprehensively analyzing the transition of the resistivity and the effective resistivity. The measured values obtained by the HS-CMR method can be used to improve and develop crystal growth and device processes.



! Modulating the injection current of four-probe, getting dynamic resistivity profile, calculating a single quality factor with surface quality and wafer thickness considered.