



ApplicationFocus Sensors



Inspection and Measurement of Sensors

A sensor is an electronic device that measures an environmental physical condition, quantifies this and converts it into a signal output that can be read by an observer or by an instrument. Sensors are used in millions of everyday items such as cell phones, portable media players, home appliances, remote controls, electronic games, PC peripherals, home entertainment products, automotive airbags and industrial control equipment. In order to

assure accuracy, they must be calibrated against known standards. Since many sensors are based on etched silicon wafers, it is important to measure not only their critical dimensions in x and y axes but also the depth of the etching. Since sensors are produced and inspected in very large numbers, speed of inspection is a critical factor.

System Challenge

Historical manual methods of inspection are limited in their ability to:

- Measure several critical dimensions at the same time
- Measure etched patterns to assure their profile and depth of etch are correct
- View a part at lower magnification for feature location then zoom in for close-up
- Automate an inspection cycle of repetitive patterns

Nikon's Solution

NEXIV high magnification models: VMZ-R Type 3 and Z120x Vision Systems with Automeasure Software

- High magnification zoom optical systems to accommodate different requirements
- Through-The-Lens (TTL) laser system for accurate measurement of depth of etch
- Ability to instantly zoom from lower to higher magnification for greater detail
- Magnification capability up to 4800X for inspection of the finest details
- Ability to generate teaching files to check repetitive patterns are within tolerances

For more information, go to www.nikonmetrology.com or email sales.nm@nikon.com

CNC Video Measuring Systems

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