TECHNICAL FEATURES

SYSTEM DESCRIPTION

Control system
• Tower case PC (current model)
• 23” TFT color monitor
• BEPT proprietary interfaces

Software
• Microsoft Windows® XP/7
• Microsoft Excel (spreadsheet and database)
• BEPT Inspector executive system
• BEPT system calibration software
• BEPT remote desktop support

Measurement center
• Testing at different resolutions 0.5–5 microns
• Fast test and re-test capable at higher resolutions
• Mechanics are mounted on a solid base—both probe card and motherboards are mounted onto a comfortable desk unit
• Temperature monitoring featuring TempAlarm during test and rework
• Re-test of the probe card from the bottom position is facilitated by a flip table, coordinated camera tracking, and image translation
• Process is fully automated after set-up
• 350 microns focus depth range

MEASUREMENT DESCRIPTION

More detailed information is contained in our datasheet and available at our website
www.probecardtester.com

Planarity travel
10 mm
0.1 micron resolution
350 microns scanning depth

Alignment travel
200 millimeter [X and Y] micron resolution
optional 300 millimeter micron resolution

Motherboards
up to 23” square

Others
probe card clamping fixture mechanism

Options
• Leica microscope/other configurations
• NIST calibration card
• RF tag inventory control system
• Automatic fine leveling for different probe card platforms
• Different probe card holders
• XY alignment information

Operating environment
• Temperature: 20-21 degrees Celsius (65–75 °F)
• Humidity: 30–50% RH
• Mains voltage: 120VAC 60 Hz or 220 VAC 50 Hz

Weight and dimensions desk
• Dimensions: 165 X 90 X 180 CM
[height X depth X width]
• Weight: 30 Kg including PC and peripherals

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INSPECTOR is manufactured by
BE Precision Technology
Rev.16 – 01.10.2013
Patent Pending

BE Precision Technology

BE probe card test solution for the semiconductor industry
INSPECTOR SERIES

INTRODUCTION
Yield problems? Inconsistent test results? The probe card is a crucial part of a wafer test in order to achieve optimum yield. A normal probe card analyzer investigates only 100 microns around the probe tip looking for alignment failures. The INSPECTOR investigates the entire probe card area and scans everything between and around the probes. INSPECTOR will find dust particles between the probes and failures in the probe head that may be caused by an angled head, low probe drop, and cracks in the epoxy or ceramic.

THE ANALYZER TOOL FOR YOUR CHALLENGE
The INSPECTOR is able to show probe tip wear of the tip shape and will also show how much the probe has moved vertically out of the ceramic of the probe card. The INSPECTOR physically checks the probe tip and probe head locations in 3D (X-Y-Z).

INSPECTOR OFFERS PHYSICAL VERIFICATION
- Probe position by HD camera, air image so there is no contact to the probe card for optimum analysis
- Z (planarity) by optical contact
- Beam control level
- Controls the distance between the wafer and the probe head

EASY OPERATION
INSPECTOR comes with easy to use software. Adding probe cards to the system can be done by self-teaching or importing probe card design files. When the analysis is complete the software indicates pass/fail with a traffic light icon. Defective card repair has now become a more efficient job by easy repair functions support.

TEST ELECTRICAL PARAMETERS
The INSPECTOR has standard, no electrical measurement channels available as the system is dedicated to measure only the probes and the probe head. Inspector verifies if protrusions are present or finds weak spots in the probe head assembly. In addition to planarity, the system can measure hairline cracks on the ceramic or in the epoxy and is even able to detect a loose screw that mounts the head to the pcb.

PROBE CARD INSPECTOR

THE VALUE OF 3-D INFORMATION
INSPECTOR shows the mechanical layer for the probe card in 3D and has a standard reference file that contains details such as probe position and what to inspect on the probe head. Additionally, INSPECTOR can handle all kinds of probe cards—MEMS, cantilever, vertical, membrane and others.

GRAPHIC DISPLAY
INSPECTOR provides a clear, easy-to-read display for all individual probe specific parameters.

INSPECTOR AS A PRODUCTION TOOL
Although inspector has considerable measurement and analytical capability, the tool has been designed from the beginning to serve as a verification and investigation system. Its primary purpose is to ensure the integrity of probe card assemblies and verify that they are ready for test.

CLEAR REPORTS
INSPECTOR provides clear test reports in the universally familiar Microsoft Excel format. Reports can be displayed to the screen and used as input for the BEPT Analyst SPC software.

For all types of probe cards up to 200 mm or 300 mm circle contact points.

INSPECTOR HIGHLIGHTS
- Fully automated probe card analyzer
- Up to 8” x 8” large probe cards for mechanical check
- Motherboard fit for easy clamping/fixture
- Imports industry standard data files
- Server Attached Systems (SAS)
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INSPECTOR has several user selectable test modes to inspect the probe card.
- Scan probe cards fast and get results within 60 seconds
- Perform detailed probe card scans with 0.5 micron resolution to see every imperfection

SYSTEM DIAGRAM

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