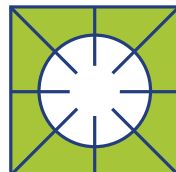


MANAGER III

PROBE CARD ANALYZER, REPAIR STATION AND MANAGEMENT SYSTEM



BE probe card test solution
PT for the semiconductor industry



BE Precision
Technology

INTRODUCTION

Yield problems? Inconsistent test results? The probe card is a crucial part of a wafer test set up. The probe card is the mechanical interface between the test system and the bond-pads on the wafer.

Probe tip misalignment, high contact resistance and signal leakage will cause inconsistent test results and/or even rejects. Eliminate this variable by using the MANAGER III to analyze and manage the probe card physical and electrical condition.

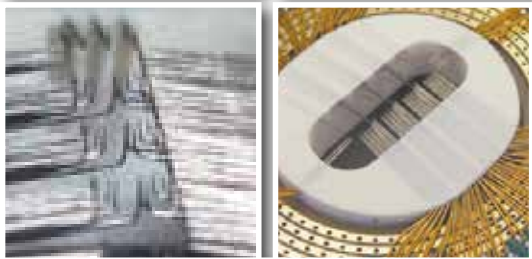
YOUR PROBLEM IS OUR CHALLENGE

The MANAGER III accurately informs you on the condition of your probe cards. Physical check of the probe tip locations in 3-D (X-Y-Z) generates a detailed status report and necessary repair instructions. Electrical verification informs you about the contact resistance throughout the entire probe card all the way to the probe tip as well as the leakage between the probe tips and their connections.

EASY OPERATION

Easy to use software. Adding probe cards to the system can be done by self teaching or importing probe card design files. Tools like *Trace Probe* provide easy and fast probe card file creation.

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.



For all types of probecards to 10,000 contact points

MANAGER III OFFERS

Physical verification

- X/Y position by HD camera; Air image and Scrub-image
- Z (planarity) by electrical contact (first-contact full-contact)
- Contact force per pin and force for entire card

Electrical verification

- Contact resistance from tester connection point to probe tip
- Leakage measurements

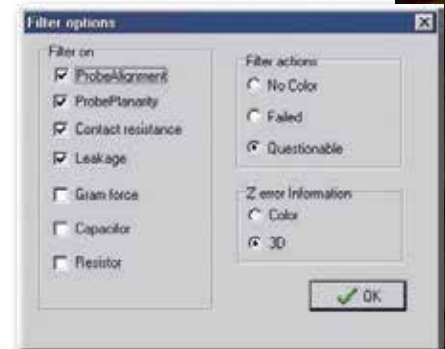
Flip table

- Easy access to repair the probe card
- Zoom microscope for clear view (optional motorized)

Probe tip conditioning

- Reshaping
- Cleaning

local-Channel	Name
11	pb1
10	pb4
19	pb5
8	pb11
3	pb11
6	pb14
7	pb16
5	pb17
4	pb24



TEST ELECTRICAL PARAMETERS

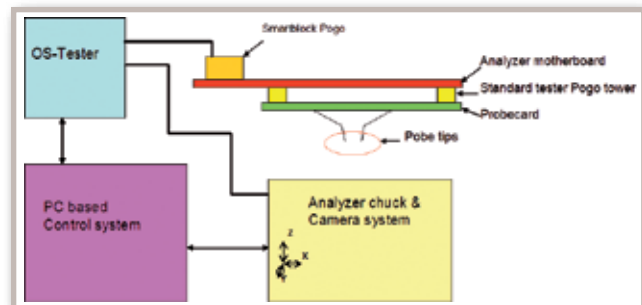
In addition to alignment and planarity, the system can measure contact resistance (including ultra low resistance) and compare the results against the stored reference data file. Probe tips can be cleaned or reshaped with the MANAGER III for better contact resistance performance.

MANAGER III has two user selectable leakage test modes to test each probe to all other probes;

- While probe card is in *the air*
- While probe card is with normal over travel on isolated chuck surface.

Bussed probes are checked by single electrode. Electronic components on the probe card are tested with optional instruments. Up to 10,000 channels can be checked.

SYSTEM DIAGRAM

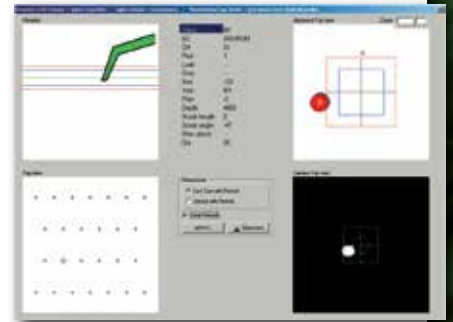


PROBE CARD ANALYZER

CONTACT FORCE

MANAGER III offers two options to check the contact force (gram force):

- Measure all probes in one movement and calculate the average value
- Measure each individual probe, linearity, gram force and spring rate



GRAPIC DISPLAY

MANAGER III provides a clear, easy to read display for all individual probe specific parameters

MANAGER III AS A PRODUCTION TOOL

Although MANAGER III has considerable measurement and analytical capability, MANAGER III has been designed from the beginning to serve as a verification system. Its primary purpose is to ensure the integrity of probe card assemblies and verify that they are ready for test. SPC characterization before and after wafer sort will also allow analysis of probe card performance characteristics and facilitate correlation to test yield.



CLEAR REPORTS

MANAGER III provides clear test reports in the universally familiar MS Excel format. Reports can be displayed to the screen and used as input for the BE-PT *Analyst SPC* software.

Ch	EC	Tr	Pad	Xerr	Yerr	Plan	Depth	Leak	Cres	SL	SA	WT	Dia	GramF
24	Pd1	22	1	40.0	11.0	2	4465	0	1289	4	148	24	86	-
23	Pd8	21	8	16.0	-22.0	-10	4579	1	578	2	-35	23	82	-
22	Pd16	20	16	-14.0	-19.0	0	4569	2	698	2	-85	22	86	-
14	Pd18	42	18	2.0	28.0	-10	4579	5	568	4	14	14	86	-

MANAGER V HIGHLIGHTS

- Fully automated probe card analyzer
- Up to 12" X 12" large probe cards for alignment check
- Neural software evaluation of probe tip characteristic
- Probe card flip table for easy rework
- Motherboard with contact blocks for easy connections
- Imports industry standard data files
- Server Attached Systems (SAS)



Rework capability



Full Kelvin Measurement

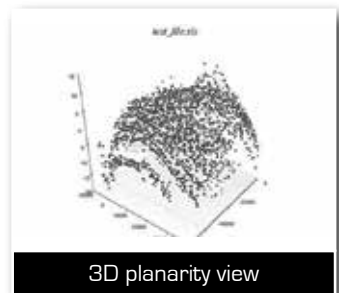
OPTIONS

FUTURE

www.probecardtester.com



pmc boards



3D planarity view

TECHNICAL FEATURES

SYSTEM DESCRIPTION

Control system

- Tower case PC (current model Pentium)
- 21" TFT Color Monitor with BE-Precision Technology proprietary interfaces

Software

- Microsoft Windows® XP/7
- Microsoft Excel (spreadsheet and database)
- BE-PT Manager III executive system
- BE-PT System diagnostics
- BE-PT System calibration software
- BE-PT SPC Analysis software

Measurement center

- All measurement electronics and I/O connections are contained in the system kiosk
- The measurement center is supplied as standard with 1,500 channels. Upgrade up to 10,000 channels
- Mechanics are mounted on a rock solid base. Both Probe card and motherboards are mounted onto a comfortable *flip table* which rotates from right to the left
- Temperature monitoring featuring Temp Alarm during test and rework
- Rework of probe Card from the bottom position is facilitated by a flip table, coordinated camera tracking and image translation

MEASUREMENT DESCRIPTION

More detailed information is available in our datasheet or see www.probecardtester.com

- Contact resistance: 0-9 ohms, 1 milli ohm resolution
- Leakage: 0-300 nano-amps, 0.1 nano-amp
- Planarity travel: 10 or 20 mm 0.1 micron resolution
- Alignment travel: 4 X 8 inch [X & Y] 0.1 micron resolution
- optional 12 x 12 inch [X & Y] 0.1 micron resolution
- Gram Force: 1-30 gram 0.1 gram resolution
- Motherboards: up to 23 inch square

Options

- Expandable PMU channel up to 10,000
- Powerful Z stage lift 50 to 100 Kg
- Hot chuck/bussed probes, relay control board
- LCR components board
- Microscope Leica/other configurations
- NIST calibration card
- Ultra low leakage measurement parametric probe cards
- RF Tag inventory control system
- Auto fine leveling for different probe-card platforms

Operating environment

Temperature: 20-23 degrees Celsius (65-75 °F)

Humidity: 30-50% RH

Mains voltage: 120VAC 60 Hz or 220 VAC 50 Hz

Weight and dimensions desk

165 X 90 X 180 CM (Height X Depth X Width)

326 Kg including PC and peripherals



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MANAGER III is manufactured by
BE Precision Technology
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