VERGENT

PRODUCTS

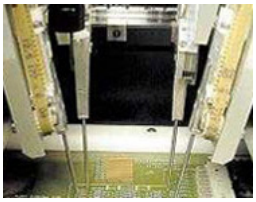
Continually Elevating Return

Test Development Services
Fixtureless Test

Rapidly increasing complexity of PCBA assemblies makes visual defect detection nearly impossible. Receiving a PCBA without electrical verification can significantly delay design verification of prototypes and system integration of low volume PCBAs. The cost and time to develop fixture based in-circuit testing (ICT) is prohibitive in the prototype stage and the investment in ICT or functional test is tough to justify for low volume manufacturing.

Vergent Products offers a solution – flying probe fixtureless testing based on parametric test of each component. Fixtureless test development is low cost and very fast. There is no costly fixture to design and build. Tests are generated from CAD information which enables a high degree of test coverage and flexibility.

Testing your low volume products and prototypes allows for detection and repair of electrical defects such as wrong parts, reversed parts, missing parts, solder opens, and major solder defects. Fixtureless testing can help you improve your products time-to-market by achieving the highest possible quality levels early in the product life cycle. Fixtureless test allows your engineers to focus their efforts on prototype design verification instead of debugging process issues.



Fixtureless testers use a flexible moving probe system. Multiple probes are automatically moved very rapidly to various test points on the assembly – hence the name: “flying probe”. These probes are capable of static DC voltage, current, resistance, capacitance, and inductance measurements. Test points are derived from CAD data to ensure accuracy and to maximize test coverage.

Here is a brief description of some of the features of the Seica S40 has to offer:

- Four independently moving topside contact probes; Test speeds up to 12 – 20 tests per second
- Test area up to 16” x 20”
- Positioning repeatability accuracy of +/- 0.12mils; Minimum positioning resolution of +- 0.20 mils in each axes
- Minimum probe contact pitch of 0.12 mils between probe pins; Minimum pad size of 4.0 mils
- Maximum component height of 0.9 inches including board thickness
- Automated optical inspection, in-circuit programming, and boundary scan functional test capable (optional)

Component measuring ranges [minimum resolution]:

Voltage generator	low voltage DC/AC	2 channels	+- 1mV to +- 10V (+-0.1%)
Voltage generator	high voltage DC/AC	1 channel	+- 25mV to +- 100V (+-0.2%)
Voltage measurement	DC/AC	1 channel	+- 200uV to +- 100V
Current generator	low current DC/AC	1 channel	+- 1na to +- 0.5A (+-0.1%)
Current measurement	DC/AC	1 channel	+- 3na to +- 0.5A
Resistance measurement		1 channel	.1 Ω to 100MΩ
Capacitance measurement		1 channel	1pF to 1F
Inductance measurement		1 channel	1uH to 1H
Zener Diode		1 channel	up to 100V
Waveform generator	Sine, Triangle, Arbitrary	1 channel	1 Hz to 3 mHz (+- 1 mHz) +- 10V max
Waveform generator	Sine, Triangle, Arbitrary	1 channel	1 Hz to 10 kHz (+-10 mHz) +- 100V max
Frequency measurement		1 channel	0.1 Hz to 10 mHz
Digital embedded channel		1 channel	+-12V 500ma @ 10Mhz

For best turn around time on board test program generation and debug please provide:

- Schematics
- ASCII CAD data
- Raw card
- Populated board

The test development NRE charges are very reasonable. Call us today.