

Test of Microelectronic Components



Due to the complexity of IC design and cost of current semiconductor technologies, quality assurance and quality control both during development as well as during production and the life time of microelectronic components is more important than ever. Hitest offers a wide range of services in this environment, reducing your quality costs.

Hitest supports you in the following tasks:

- Circuit Verification during the development
- Characterization of new components
- Qualification for specific applications
- Development of tests for the mass production
- Implementation of production tests in small and medium quantities
- Lot Acceptance Tests for release to production
- Analysis of field failures

For each of these tasks Hitest develops cost and time optimized solutions by the know-how acquired in many projects and using the existing facilities.

Circuit Verification

Complex circuits are currently developed with the help of behavior and technology simulations.

Many physical effects is given too little attention. Therefore, it is sometimes useful and necessary, to realize the entire circuit or particularly critical parts as a prototype and to test it against the specification.

Hitest develops in collaboration with you a test environment that verifies this prototype and avoids development errors already at this stage.

Characterization of new components

After completing a circuit design, the prototypes have to be measured with the help of parametric tests, e.g. in order to create a data sheet.

Hitest identified the parameters in the specification of the circuit, verifies and corrects them. To do this we use one of our core competences: the combination of our automatic test systems with additional equipment.

Qualifications for certain applications

In some sectors, such as aerospace or automotive, electronic components must be qualified according to relevant standards.

Hitest has experience with qualifications in accordance with MIL-STD, NASA-STD, DIN, IEC, JEDEC, ESCC, AEC-Q. Also customized qualifications are possible.

Development of tests for the mass production

A key quality assurance measure in microelectronics is the testing of components during production.

Hitest develops solutions for the wafer test as well as for the final test. The starting point can be a data sheet, a test specification or an existing test program. The tests may, depending on the number of test components, be carried out in Hitest's clean room or in a semiconductor manufacturing plant. Also, a transfer from a test environment to another is possible.

Another special feature is the optimization of test programs on the basis of previous testing results to get a comparable error cover with reduced test cost.

Implementation of production tests

In many cases, semiconductor manufacturers have no interest in testing smaller quantities of components, because they block their scarce test resources.

Hitest offers in Hanover the possibility to test smaller and medium-sized unit volumes. We can handle both wafers up to 8" as well as packaged components of different types.

We limit ourselves to unit volumes up to 1 million per year. Should the numbers rise so far that the test should be implemented directly in the semiconductor planted, so we adapt the test and install it on the site.

Lot Acceptance Tests for the release of production lots

In some cases, any production lot of a component has to pass a release procedure before it is released for further processing.

Hitest develops these Lot Acceptance Tests and carries them as an independent test house during the production.

Analysis of field failures

It happens that electronic components fail in the operation field. One of the measures for ensuring quality is to examine the failing components by repeating the production tests.

Hitest offers assistance if required, to hold available the test environment for a defined time to investigate field failures.

On us you can rely

We work in accordance with the requirements of DIN EN ISO 9001:2008. Our quality is documented, and the results are available even after 10 years.

Put your trust in us

Our employees have many years of experience in the implementation of demanding projects at national and international level.

We guarantee reliable, traceable and documented measurements at the highest level of quality.

How you can reach us

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