



Ultra Advanced Parametric Test Solution Accelerates Ramp and Improves Process Yield

– Agilent Technologies 4073A Ultra Advanced Parametric Tester –

Agilent Technologies introduces the "Agilent 4073A Ultra Advanced Parametric Tester", the Agilent 4070 parametric tester family's new flagship product. The 4073A solution is ideally suited for advanced laboratories and fabrication lines focusing on next-generation semiconductor device development. It can also accelerate the ramp-up of new processes and improve the yield on existing processes.

Agilent Technologies: The Parametric Test Leader

Agilent Technologies parametric test solutions have been the most reliable and well-known in their market segment for more than a decade. Our large installed base of over 2000 systems (4062 and 4070 family) at major independent device manufacturers and wafer foundries, and the use of 4071/72As by pioneers in 300 mm wafer fabs demonstrate that Agilent Technologies is the most trustworthy partner. Agilent Technologies superior system reliability and uptime (more than 10,000 hours MTBF) further prove our leadership position in parametric test. Moreover, our commitment to providing both upward compatibility and continuous enhancements to our 4070 product line ensure that your parametric test investment will be protected in the future. By using our well-accepted test solution you can improve your own productivity as well as your ability

to collaborate with your worldwide partners. In addition, our skilled and dedicated worldwide sales and support teams are available to provide you and your affiliates with prompt and professional service.

Solutions for Complex Parametric Test Needs

Well-established market trends, like system-on-a-chip (SOC) integration and copper interconnect with low dielectric materials, have mandated improvements in parametric test. Today, parametric testers must handle advanced parametric test as well as Flash memory cell evaluation, ring oscillator measurement, and sophisticated WLR tests.



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However, new trends such as deep sub micron and low power consumption require the bar to be raised once again. DRAM cell evaluation now requires ultra low current measurement below 100 fA. Resistance evaluations of advanced Cu interconnect and matching tests for new analog devices both need sub-1 μ V measurement capability. Of course, new processes cannot achieve quick ramp-up solely on the basis of precise measurement; high throughput is required as well. To meet this need, the measurement speed of the 4073A is orders of magnitude faster for low-current measurement. Such performance was previously possible only with the addition of external instruments. Thus, the capabilities of the 4073A help to ensure you a quick "Turn-Around-Time" for your ultra advanced processes.

Outstanding Parametric Test Solution

The 4073A offers excellent performance with an ultra-low noise floor, fast low-current measurement settling times, and improved measurement precision and resolution. Agilent Technologies has worked hard to remove barriers to achieving this superior performance in production, through both collaboration with automatic wafer prober manufacturers as well as an innovative and cost-effective probe card design. The total noise floor of our system solution is much lower than 100 fA, down to 10 fA or better. This total solution allows you to make both lower current and voltage measurements faster in production, and to tighten your measurement guardbands. You can perform both 10 times lower current and voltage measurements, and from 3 times up to 30 times faster spot current measurements at the sub pA level (as compared to the 4072A). Therefore, you can lower your overall cost of test. For more wafer prober and probe card information, please contact your local Agilent sales representative.

An efficient and complete parametric test solution requires exceptional software in addition to superior hardware. To meet these requirements, the 4073A has both a versatile system software environment as well as compatibility with the Agilent SPECS (Semiconductor Process Evaluation Core Software) test shell.

The 4073A system software supports the intuitive Interactive Debugging Panel (IDP) and the powerful Agilent Flexible Algorithm Semiconductor Test Code (FASTCode) generator. IDP provides a user-friendly graphical user interface (GUI) for making quick interactive measurements on the 4070 family of test systems. The Agilent FASTCode generator automatically creates equivalent HP BASIC/UX or C code from IDP measurement setups. You can utilize IDP and the Agilent FASTCode generator together to create quickly new test algorithms for use in process development or production.

The Agilent SPECS test shell continues its role as the unifying environment for our total semiconductor parametric test solution. SPECS covers a wide spectrum of needs from interactive or automated test plan development to intelligent automated test. By standardizing on SPECS you assure yourself of a common environment for you and your worldwide partners. Most importantly, the ability of SPECS to be used in a fully automated test environment can save you money and time, especially as you migrate from 200 mm to 300 mm wafer fabrication lines.

For all of these reasons, our parametric test solution enables you to be agile and competitive in the rapidly growing and changing semiconductor market.

Agilent Technologies' Test and Measurement Support, Services, and Assistance

Agilent Technologies aims to maximize the value you receive, while minimizing your risk and problems. We strive to ensure that you get the test and measurement capabilities you paid for and obtain the support you need. Our extensive support resources and services can help you choose the right Agilent products for your applications and apply them successfully. Every instrument and system we sell has a global warranty. Support is available for at least five years beyond the production life of the product. Two concepts underlie Agilent's overall support policy: "Our Promise" and "Your Advantage."

Our Promise

Our Promise means your Agilent test and measurement equipment will meet its advertised performance and functionality. When you are choosing new equipment, we will help you with product information, including realistic performance specifications and practical recommendations from experienced test engineers. When you use Agilent equipment, we can verify that it works properly, help with product operation, and provide basic measurement assistance for the use of specified capabilities, at no extra cost upon request. Many self-help tools are available.

Your Advantage

Your Advantage means that Agilent offers a wide range of additional expert test and measurement services, which you can purchase according to your unique technical and business needs. Solve problems efficiently and gain a competitive edge by contracting with us for calibration, extra-cost upgrades, out-of-warranty repairs, and on-site education and training, as well as design, system integration, project management, and other professional engineering services. Experienced Agilent engineers and technicians worldwide can help you maximize your productivity, optimize the return on investment of your Agilent instruments and systems, and obtain dependable measurement accuracy for the life of those products.

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(tel) (81) 426 56 7832

(fax) (81) 426 56 7840

Australia:

(tel) 1 800 629 485

(fax) (61 3) 9272 0749

Asia Pacific:

(tel) (852) 3197 7777

(fax) (852) 2506 9284

Europe:

(tel) (31 20) 547 2000

Latin America:

(tel) (305) 267 4245

(fax) (305) 267 4286

New Zealand:

(tel) 0 800 738 378

(fax) 64 4 495 8950

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