

EG6000e

- **Perform precision measurements of small test structures.**

The EG6000e reduces chuck and cable noise to less than 120 femto-Amp (fA) for high accuracy measurements.

- **Increase throughput with fast electrical settling.** The EG6000e features a low capacitance chuck and cable design for very short settling to femto-Amp levels.

- **Control vibration for consistent test results.** Active vibration cancellation (patent pending) maintains consistent contact resistance reducing yield loss from vibration.

- **Damage-free probing of Cu, low-k and SOI wafers with soft touchdowns.** The new **MicroTouch™** feature allows the user to control the velocity of the Z stage just before contact and during overtravel to reduce probe damage to low-k dielectrics, circuitry under bond pads, and aluminum capped copper pads.

- **Enables probing delicate device technologies.** The EG6000e provides a new generation of overall Z accuracy, including: 50 nanometer resolution, closed-loop chuck positioning, proprietary grid-based surface mapping, and advanced probe-to-pad alignment algorithms.

- **Supports high-mix production environments.** With easy system portability and kit-less conversion from 150mm to 300mm wafers, the EG6000e provides essential flexibility.

- **Quickly test at different temperatures.** Proprietary Electroglas thermal technology allows testing to resume rapidly after changing temperatures.

ADVANCED 300MM PARAMETRIC WAFER PROBER

*Low-noise and fast settling for precision,
high-throughput measurements*



- **The EG6000e** is the world's most stable 300mm parametric wafer prober. Electroglas' second generation 300mm parametric wafer prober fuses the automation, throughput, and reliability of the EG6000 prober with industry-leading low-noise chuck technology to meet the needs of e-test, WAT (Wafer Acceptance Testing), and device characterization.

Precision Measurements at High Speed

Decreasing structure size, market pressures for faster times to yield, and the requirements for highly reliable die are creating the need for parametric process monitoring in addition to optical inspection. Smaller device geometries require parametric testing at increasingly lower current and voltage levels.

Laboratory-Grade, High Speed Parametric Prober

Electroglas has responded to the need for extremely low-noise, high speed measurements with its 2nd generation 300mm parametric prober. The EG6000e combines patented *femtoguard®* chuck technology from Cascade Microtech and a low-noise signal path design with proven Electroglas high-throughput production probing capabilities.

The World's Most Stable 300mm Prober for Extended Parametric Measurements

The EG6000e is optimal for extended characterization tests which can take several hours or even a full day. Stability is enhanced with compensation for thermal effects, negation of vibration, and a high accuracy motion system.

Compensation for thermal expansion of prober components and the probe pins is automatic. This enables testing to resume rapidly after changing temperatures but more important for long parametric tests, the probe-to-pad alignment can be adjusted during contact to compensate for thermal shift.

Test floor vibration, caused by adjacent equipment or traffic in the aisles can lead to inconsistent contact resistance. EG6000e is the only prober with active and passive vibration controls to reject vibration before it reaches the device under test. The result is consistent contact resistance which is critical for sensitive and extended tests.

ELECTROGLAS, INNOVATIVE TOOLS FOR TEST

Active vibration cancellation is made possible with the most sophisticated motion control system ever incorporated in a wafer prober. The EG6000e's direct drive gantry design has a superior combination of accuracy, throughput, and dynamic stability to alternative leadscrew designs. Wear-free induction motors, with 100 nm resolution, control the stage, which floats on an air bearing over a stable granite block. All three axes utilize closed-loop feedback.

The best motion system is combined with new techniques for precision wafer and probe card alignment to achieve the world's best overall pin-to-pad accuracy. The EG6000e has an overall pin-to-pad accuracy of +/- 1.5 μm .

Impact Control for Contacting Delicate Devices

Many new devices are made with delicate low-k dielectric layers, copper pads with thin aluminum coatings and often bond pads located above active circuitry. The EG6000e controls the velocity and deceleration of the chuck top as the device's bond pads contact the probe pins.

The EG6000e features a low-noises signal path that includes a chuck incorporating Cascade Microtech's femtogaurd™ shielding technology. This allows enables customers to make very sensitive parametric measurements

This minimizes impact force. To ensure the consistency of the probe force and contact resistance on each touchdown, from die to die and wafer to wafer, a comprehensive Z strategy is employed.

The EG6000e is designed to address the factors which affect the overall Z accuracy. Probe tips are accurately profiled and monitored for thermal growth and wafers are profiled with a new high resolution technique. Finally, the wafer is positioned by the Z stage with a resolution of 50 nm.

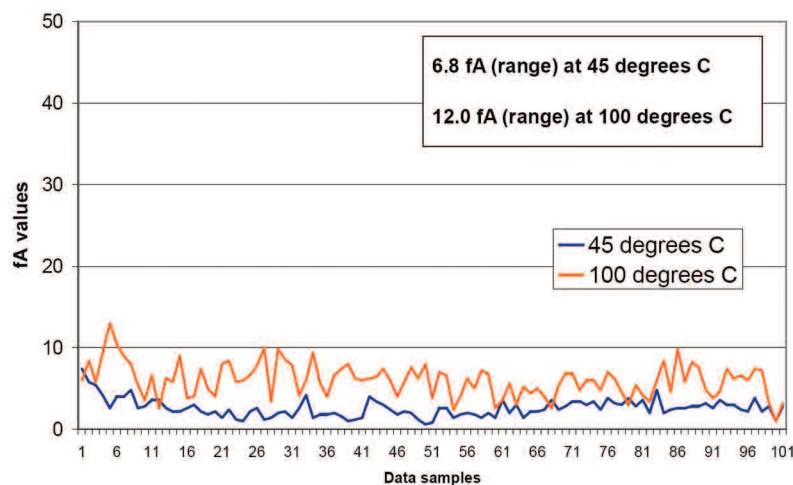
The Next, Easy Step

For more information on how the EG6000e can probe your most advanced devices, contact your Electroglas sales representative at (800) 538-5124 or visit www.electroglas.com.

Other Electroglas products and solutions, including Electroglas' prober software products and the SORTmanager Test Floor Management Software family, can enhance or expand on the capabilities of the EG6000e prober.



Low Electrical Noise (Thermal On)



5729 Fontanos Way, San Jose CA 95138
TEL: (408) 528-3000 FAX: (408) 528-3562
(800) 538-5124 www.electroglas.com

Electroglas is Focused on Advancing Innovative Technologies to Meet Evolving Challenges in Semiconductor Test.

Test is all about ensuring device quality and manufacturing performance. In the high-volume manufacturing environment of our customers, our innovative products provide substantial value and help lower the overall cost of test.

Electroglas delivers high-speed tools for wafer probing and package test that are reliable, accurate and production proven. Today, we are focused on overcoming our customers' evolving test challenges, partnering with them to develop solid solutions for wafer probing, prober-based test handling, and test management that will drive greater efficiencies in their wafer and device testing processes. Our customers have rapid, direct access to our worldwide team of experts for service and advice.

Wafer Probers for Any Test Environment; With Shipments of Over 15,000 Systems

Electroglas' probers have been meeting a variety of probing needs for more than 40 years. These automated systems consistently deliver accurate, reliable wafer probing for high volume, low cost manufacturing, as well as leading edge, multi-die, bumped wafer, in-line parametric test and fine-pitch probing applications.

Prober-Based Test Handlers for Today's Latest Packaging Technologies

Electroglas' test handlers are built upon proven prober technology to give chip-makers a fast, flexible handling solution for today's final test challenges. Strip test handlers deliver unprecedented throughput for testing a wide variety of popular package types in panel or leadframe format. Filmframe handlers have unique capabilities for testing Wafer Level Packages (WLP), Known Good Die (KGD) on diced wafers, Microelectro-mechanical Systems (MEMS), and ultra-thin wafers.

Test Floor Management Software for Web-Based Process Analysis and Control

Electroglas test floor management software provides a unique, networked solution to connect wafer probers and test handlers to the broader testing infrastructure, allowing the chipmaker to better manage overall test effectiveness with accurate and efficient tools for monitoring, analyzing and improving important processes.

All Products Backed by Global Service for Fastest Response

Electroglas' customer service centers are located worldwide for rapid-response field service and local spare parts support. Electroglas demonstrates its commitment to total customer satisfaction through service excellence backed by factory-based technical support, applications development and training.