RUDOLPH TECHNOLOGIES

Process. Control. ***Yield.***

Rudolph Technologies provides high-performance process control metrology, defect inspection, probe card test and data analysis used in microelectronics manufacturing. Rudolph's strategy for continued technological and market leadership includes aggressive research and development and dedicated applications support on a worldwide scale.

Explorer™ Inspection Cluster

ADVANCED MACRO DEFECT INSPECTION— Chip manufacturers deploy advanced macro defect inspection throughout the fab to monitor key process steps, gather process-enhancing information and ultimately, lower manufacturing costs. Field-proven tools such as the NSX® and Wafer Scanner™ are preferred by back-end fabs for 2D/3D inspection. In the front-end, Rudolph's new Explorer Inspection Cluster™ incorporates wafer frontside, edge and backside inspection in one integrated platform to enhance productivity and continuously improve fab yield.

S3000A™ Metrology System

PROCESS CONTROL METROLOGY— Film metrology enables process engineers to monitor and correct quality problems by evaluating composition, thickness, and other film properties throughout the chip manufacturing process. To measure transparent films, Rudolph offers laser ellipsometers with the patented Focused Beam Ellipsometry™ (FBE) technology. This provides for the most reliable, unambiguous results on films ranging from the very thinnest to the thickest used in semiconductor production. Opaque films on wafers are measured with the patented Picosecond Ultrasonic Laser Sonar (PULSE) technology, simultaneously measuring thickness and other properties of five or more metal film layers in a non-contact manner.

PROBE CARD TEST AND ANALYSIS— Precision wafer probe card metrology and wafer probe process management systems were added to the Rudolph portfolio in 2007. This offering complements the company's established presence in the final manufacturing arena.

YIELD MANAGEMENT— Rudolph offers an unmatched suite of real-time fabwide software for process characterization and data review. As an example, Discover Enterprise® provides real-time comprehensive analysis of in-line metrology, e-test and WIP data and TrueADC™ defect classification supports all SEM and optical inspection tools with a semiconductor fab. Use of these automated solutions reduces engineering time and increases tool productivity. Discover Solar™ fab management software was designed specifically for the photovoltaic manufacturing process.

GLOBAL PRESENCE, LOCAL SUPPORT—The world's leading device manufacturers work side by side with Rudolph applications engineers, exploring new methods to increase yield and improve performance. Rudolph facilities are strategically located in each semiconductor manufacturing region of the world, and are staffed with trained applications and service personnel to provide a full range of on-site process support.

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