Synopsys and Photronics Collaborate to Improve Quality and Delivery Time of Advanced Photomasks

Tighter Links Between Software and Manufacturing Accelerate Time to Yield

Synopsys, Inc. (NASDAQ: SNPS), the world leader in semiconductor design software, and Photronics, Inc. (NASDAQ: PLAB), a global leader in photomask technology, today announced a joint program focused on improving the manufacturability and quality of advanced photomasks and reducing the cycle times for design-to-photomask flows. Synopsys and Photronics will jointly explore and develop solutions in the area of design for manufacturing (DFM) and mask synthesis targeting faster time to yield for semiconductor manufacturers.

Specific activities included in the collaboration will be efforts to improve the design flow from layout to mask for alternating aperture phase shift masks (AAPSM), improve the yield and cycle time for masks using strong resolution enhancement techniques (RET), and reduce the turn around time for mask inspection using Synopsys' suite of DFM software tools.

"Building on a long-standing relationship, Photronics and Synopsys are working together to ensure that the most advanced photomasks are optimized to deliver the highest possible yield. Accelerating process complexity necessitates the linking of design tools to photomask fabrication," said Dr. Christopher J. Progler, chief technical officer of Photronics, Inc. "This collaboration will provide strong benefits for our customers by reducing imaging costs and improving overall photomask quality."

"Synopsys looks forward to advancing its relationship with Photronics to jointly address the escalating complexity of photomask fabrication," said Dan Page, vice president of engineering at Synopsys, Inc. "We expect this will be one of a number of collaborations in which Synopsys will link its comprehensive DFM software solution to technology-leading manufacturers, such as Photronics, to advance the complex technological and business issues of chip manufacturing and ultimately enable our customers to achieve their production and yield goals."

About Synopsys DFM

Synopsys offers the industry's most comprehensive RTL-to-Mask DFM solution. Its DFM product family addresses critical yield and manufacturability issues with its software products: Proteus™ mask synthesis, CATS® mask data preparation, SiVL® lithography verification, i-Virtual Stepper™ mask defect dispositioning and Taurus™ TCAD. Synopsys leverages this expertise through its industry-leading Galaxy™ design platform in order to help ensure that designs at 90nm and smaller geometries will meet key manufacturing requirements. Synopsys' DFM product family is the solution-of-choice for 130nm yield sensitive, high-value chips, worldwide. 80 percent of all sub-180nm microprocessors, 50 percent of all sub-180nm DRAMs, 80 percent of all sub-180nm FPGA and graphics chips, 75 percent of all sub-180nm cellular baseband chips produced use Proteus, and more than 80 percent of all photomasks produced use CATS.

About Photronics

Photronics is a leading worldwide manufacturer of photomasks. Photomasks are high precision quartz plates that contain microscopic images of electronic circuits. A key element in the manufacture of semiconductors, photomasks are used to transfer circuit patterns onto semiconductor wafers during the fabrication of integrated circuits. They are produced in accordance with circuit designs provided by customers at strategically located manufacturing facilities in Asia, Europe, and North America. Additional information on the Company can be accessed at www.photronics.com.

About Synopsys

Synopsys, Inc. is the world leader in electronic design automation (EDA) software for semiconductor design. The company delivers technology-leading semiconductor design and verification platforms and IC manufacturing software products to the global electronics market, enabling the development and production of complex systems-on-chips (SoCs). Synopsys also provides intellectual property and design services to simplify the design process and accelerate time-to-market for its customers. Synopsys is headquartered in Mountain View, California and has offices in more than 60 locations throughout North America, Europe, Japan and Asia. Visit Synopsys online at https://www.synopsys.com/ .

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SOURCE: Synopsys, Inc.

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