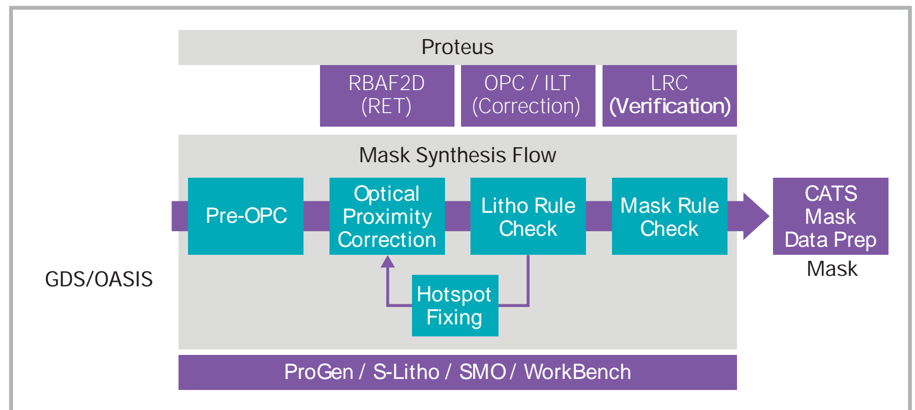
Proteus provides a complete suite of leading-edge lithography solutions for mask synthesis to model the manufacturing process, perform lithography process optimization, provide full-chip correction of proximity effects, and detect design locations that are sensitive to process variability (hotspots). For development and production use models, Proteus and S-Litho, our rigorous physics-based lithography simulator, have been tightly integrated to provide the industry's highest level of accuracy and predictability to deliver faster (5nlet uP (-t-mark).6(,et)8(edsu-e9s. Sy18.m(y)-7(4)76q]15fil



Benefits

- Complete solutions for both development and manufacturing
- Captures largest lithography entitlement with industry's most widely production

Applications

is Synopsys' powerful cockpit tool for development and optimization of Proteus-based mask synthesis solutions. It is based on an effective hierarchical GDSII/OASIS layout visualization engine, providing a comprehensive environment for lithography simulation, compact model building, full-chip optical proximity correction (OPC) recipe tuning, layout verification, and mask synthesis flow development. PWB also supports the development and assessment of resolution enhancement techniques (RETs), resulting in a fast turnaround time for setting up production-ready mask synthesis flows.

models are empirical compact models reflecting the performance of a lithography process. Model parameters are determined by fitting experimental data. The Proteus Modeling Platform (PMP) provides a single environment for calibrating those parameters with a high degree of automation and tuning them for optimum performance in downstream applications.

represents the industry standard in lithography simulation for semiconductor process development and optimization in advanced memory and logic applications. It covers a wide range of patterning techniques, from proximity printing to high NA EUV lithography. Using physics-based models, S-Litho predicts the outcome of a lithographic process, such as the 3D resist profile or a process window. Interfacing S-Litho with TCAD tools such as Sentaurus Topography enables seamless modeling of complex integration techniques such as double-patterning. The link between S Litho and Proteus™ tools accelerates the development of optical proximity correction (OPC) solutions and supports the verification flow through automated hotspot analysis, significantly reducing cycle time.

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