SOLIDWORKS PCB

OBJECTIVE

SOLIDWORKS® PCB—Powered by Altium®—is a mechatronics/electronics design and mechanical collaboration solution jointly developed by Dassault Systèmes SolidWorks Corporation and Altium Limited, both leaders in the development of electronic and mechanical design solutions. SOLIDWORKS PCB is built on the industry-proven PCB design technology of Altium Designer and combines a first-of-its-kind, integrated electro-mechanical collaboration solution for electronic product co-design that is intelligently integrated with the SOLIDWORKS mechanical design solution.

SOLIDWORKS PCB provides schematic entry, library, and layout tools for Printed Circuit Board (PCB) electronics and is an integral part of the SOLIDWORKS design and simulation portfolio for electronic product design. SOLIDWORKS PCB helps mechatronics and electrical engineers reduce the risk inherent in innovation, and enables them to get products to market faster with less physical (ECAD-MCAD) prototyping, thus decreasing overall project costs and schedules. With a powerful and intuitive set of electronic design capabilities and seamless integration with the SOLIDWORKS portfolio, designers can take advantage of intelligent ECAD-MCAD co-design early—and throughout—the design process and avoid costly design rework, as well as eliminate or minimize potential defects, saving time and money.

OVERVIEW

PCB Design

SOLIDWORKS PCB combines the best electronics and PCB design technology with an easy-to-use interface that provides the productivity needed to get electronic circuits and PCBs designed quickly and efficiently. There is no compromise on the core design focus with a powerful set of PCB design applications, capabilities, and features, which easily meet the demands of today's mainstream mechatronic/electronic product designs. SOLIDWORKS PCB includes some of the best and latest electronics and design technologies derived from Altium's 25+ years of experience.

- A modern, intuitive schematic editing environment has the features and capabilities needed to bring design ideas to life. Users can easily define design elements and circuits with intuitive features, extensive libraries, and access to online component data and hierarchical multi-sheet design.

- Powerful place and route technology and features enable physical designs to be done quickly and efficiently.

- Includes intelligent, interactive routing and comprehensive design rule checks, as well as real-time 3D clearance checking and comprehensive manufacturing outputs.

- An easy-to-use, unified interface reduces the learning curve, even for the casual user. A seamless interface between schematic editing and board layout keeps designers and engineers at their most productive.

ECAD-MCAD Collaboration

SOLIDWORKS PCB is unique in its ability to provide on-demand collaboration between the electronic design and 3D mechanical design domains. It offers a clear advantage to any company where ECAD and MCAD collaboration is critical to the overall success of mechatronic and electronic product design. A direct ECAD-MCAD collaboration methodology that natively exchanges design data through a seamless, push-button interface ensures consistency and accuracy, and facilitates electromechanical design integration that increases productivity, reduces time and effort, and minimizes prototype scrap.

BENEFITS

- **Powerful Mechatronics / Electronics Design:** SOLIDWORKS PCB does not compromise on its core focus, with a powerful set of PCB design features to meet the demands of today's mechatronics / electronics designs and finish designs quickly and efficiently.

- **Increase Design Team Efficiency:** SOLIDWORKS PCB simplifies mechatronic/electronic design with full-featured capabilities along with unique "on-demand" ECAD-MCAD collaboration that enables cross-discipline product development and intelligent collaboration between electronic and mechanical teams.

- **Streamline Communication and Collaboration:** SOLIDWORKS PCB provides intelligent, "on-demand" communication and collaboration between ECAD and MCAD domains as part of the design workflow and allows users to share common design and data which ensures consistency.

- **Meet Project Schedules and Budgets:** SOLIDWORKS PCB enables ECAD-MCAD collaboration throughout the design process to ensure accurate electromechanical integration and fit at any design state that reduces the need for costly prototypes and time-consuming re-spins.

- **Improve Manufacturing Yields:** SOLIDWORKS PCB's seamless integration with SOLIDWORKS CAD facilitates real-time visualization and verification of the PCBs and components inside of its mechanical enclosure to avoid potential form and fit defects before manufacturing and assembly.

CAPABILITIES

SOLIDWORKS PCB (Powered by Altium)

SOLIDWORKS PCB is a set of tools engineered to bridge the gap between electrical and mechanical designs for mechatronics and electrical engineers. The solution combines the best in PCB design technology linked with SOLIDWORKS CAD to give you an efficient and streamlined design experience. It is just what organizations need when PCBs are only a part of their product design workflow.

- **ECAD-MCAD Design Collaboration:** Unmatched ECAD-MCAD integration and collaboration with SOLIDWORKS that unifies design data and pushes changes to both sides of the design project.

- **PCB Design Engine:** Industry-proven, Altium-based design engine for layout and routing of printed circuit boards.

- **Modern Schematic Entry:** Full-featured Altium-based schematic capture tool with extensive drafting capabilities, libraries, and electrical rules.

- **Streamlined Interface:** Intuitive and easy-to-use interface—inspired by SOLIDWORKS—with a consistent editor and use-model between schematic capture and board layout.

- **Managed ECAD-MCAD ECO Process:** A managed Engineering Change Order (ECO) process to and from SOLIDWORKS PCB and SOLIDWORKS 3D CAD takes care of design changes including board shape, component placement, mounting holes, and cutouts which keeps designs in sync.

- **Real-Time 3D Clearance Checking:** Visualize the PCB with components inside of the mechanical enclosure to reduce costly prototypes by ensuring that the board and components fit the mechanical enclosures with real-time 3D clearance checking.

- **Mixed-Mode SPICE 3f5 Simulator:** Simulate and analyze analog and mixed-signal circuits from within the schematic editor to make design trade-offs and avoid unnecessary design revisions by performing functional validation on designs prior to layout or manufacturing.

- **Supplier Links:** Search online supplier databases and link your design components to match real-time device parametric data, pricing, and availability putting the most up-to-date information at your fingertips throughout the entire design process to make immediate decisions to meet electrical requirements and budget and deadlines.

- **Version Control:** Manage and compare all history and changes made to design files directly and gain greater control over changes made to your design knowing exactly what changes were made and by whom.

- **Component parametric database support:** Place component parametric data directly from a corporate database keeping the components used in your design synchronized with data stored in the database.

SOLIDWORKS PCB Connector (Powered by Altium)

SOLIDWORKS PCB Connector, for Altium Designer users, takes the guesswork out of electrical and mechanical design synchronization, providing a managed environment for design collaboration between Altium Designer and SOLIDWORKS 3D CAD mechanical environments. It easily links data between both environments, sharing critical design elements between electronic and mechanical design teams. With the SOLIDWORKS PCB Connector, everyone remains on the same page throughout the design process, helping to meet critical time-to-market goals and reducing the well-known costs associated with hardware re-spins.

- **ECAD-MCAD Design Collaboration:** Unmatched ECAD-MCAD integration and collaboration between Altium Designer and SOLIDWORKS 3D CAD that unifies design data and changes on both sides of the product design.

- **Managed ECAD-MCAD ECO Process:** A managed ECO process to and from SOLIDWORKS PCB and SOLIDWORKS 3D CAD takes care of design changes including board shape, component placement, mounting holes, and cutouts keeping designs in sync.

- **SOLDIWORKS File Support:** Be confident in knowing the exact intent of your mechanical designer with SOLIDWORKS 3D file support that provides the most precise and pure version of component models and enclosures, ensuring that your 3D clearance check process provides a clear picture of board fit.

- **Design Commenting and Revision Management:** Take complete control of your design process and understand exactly what changes were made to your board design and when. Detailed design revision comments allow you to see a clear change history with the ability to accept or reject the changes.

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