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Allegro ECAD-MCAD Library Creator

Improve the accuracy and quality of your component libraries

Components, parts, and libraries must be right. Getting them right often requires a significant time investment from engineers, time that could be spent on other high-value design activities. Your component library isn't just footprints, symbols, or parametric data, it's also 3D MCAD models. The Cadence® Allegro® ECAD-MCAD Library Creator allows you to create new standards-compliant libraries in a fraction of the time, synchronize your ECAD and MCAD libraries, and easily retarget your existing libraries for different technologies. Your design team can spend less time creating libraries, and more time on design.

Overview

You and your design teams' singular focus is on perfecting your designs. Components are a fundamental part of every design that connects both the ECAD and the MCAD worlds. The risks of getting them wrong are incalculable. That's why your designers spend so much of their day to get them right. Even so, you and your designers would rather spend time on the real design. Designers need a way to ensure quality and accuracy while reducing the time spent on library creation.

The Allegro ECAD-MCAD Library Creator helps your team improve the quality and accuracy of the library. Connect your ECAD and MCAD libraries to make sure you have a complete picture of all your components. With 2D footprints and 3D models complete and in sync, your team can spend less time creating libraries, and more time on design.

Benefits

Create new standards-compliant libraries in a fraction of the time

Everything comes to a screeching halt when engineers can't find a component in the library. Progress on
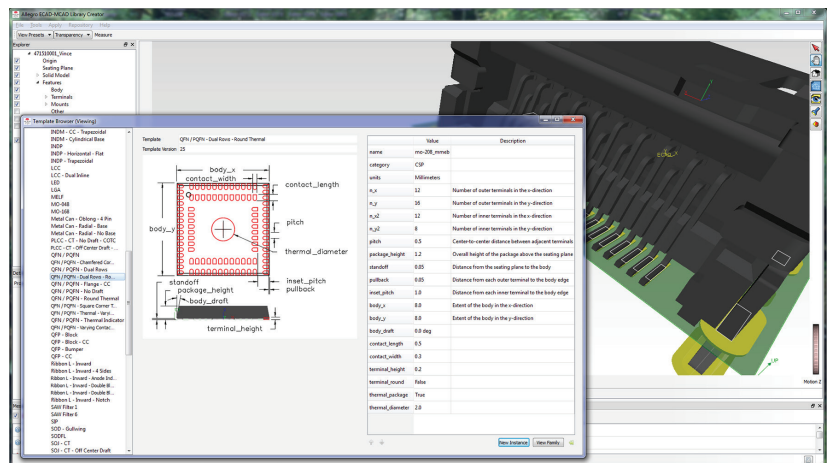

Figure 1: Build complete packages of 2D footprints and 3D models

the design stops until that part model is created and the footprint is placed back in the design.

The Allegro ECAD-MCAD Library Creator reduces creation time for new packages by 60-80%. Designers can choose from thousands of detailed 3D package models in the provided repository, create new packages from over 100 provided parametric templates, or leverage existing 3D models directly. It automatically extracts and leverages geometric details from existing 3D models, dramatically reducing time and increasing accuracy when creating footprints.

Footprints can be generated from the package based on existing standards such as IPC-7351 or customized rules to support internal practices or specific manufacturing needs. Using multiple rule sets, alternate footprints can be rapidly generated from the same package.

- Automatically generate packages from templates and existing 3D models
- Rule and template editor for customization
- Native support for MCAD 3D models

Realize the dream of a unified component library by synchronizing your ECAD and MCAD libraries

Maintaining consistency between ECAD and MCAD libraries is critical to collaborative design and avoiding costly design re-spins. Spreadsheets and meetings are no way to keep the ECAD and MCAD worlds in sync. The Allegro ECAD-MCAD Library Creator helps you keep ECAD and MCAD libraries in sync.

Allegro ECAD footprints can be validated against existing 3D models to ensure consistency. When a 3D model isn't available, one can be intelligently selected from the included library of thousands of STEP models. By connecting the ECAD and MCAD worlds, you're able to improve your design process, shorten design time, and reduce the need for physical prototypes.

- Improve library accuracy by verifying ECAD footprints with 3D models

- Augment existing ECAD libraries with 3D models from the repository using automated search and coordinate system alignment

- Native support for populating PTC Creo and Siemens NX MCAD libraries, STEP for other MCAD vendors

Quickly and easily retarget your libraries for different technologies

The quickest way to a usable component is to reuse an existing one. Save every footprint and 3D package model you create for your design in a single library and reuse them in future designs. Use the automated footprint generation and parametric templates with the Allegro ECAD-MCAD Library Creator to create multiple variations of components. Easily make complete new libraries for flex, different standards, and manufacturing processes simply by applying new target-specific rules to existing ones.
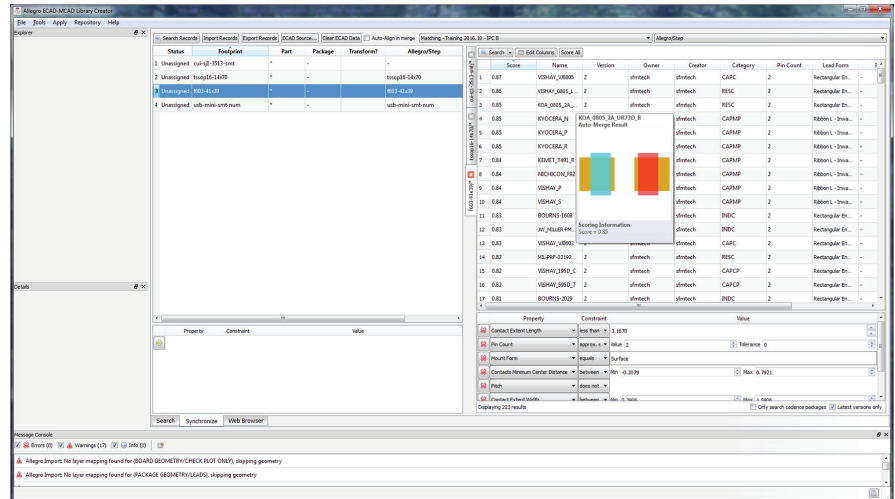

Figure 2: Validate ECAD and MCAD data to ensure a complete and accurate package

Maintain the library's accuracy and completeness by analyzing the integrity of the components in a single unified graphical environment to ensure ECAD-MCAD consistency. Take careful measurements so that any errors are found before they show up in your designs, and engineers can be confident when using existing content.

- Reuse existing library models in future designs to reduce design time

- Create variations of your libraries for different standards, flex, HDI, and alternate solder processes in days instead of months

- Ensure the accuracy and completeness of your library with automatic checks and validations
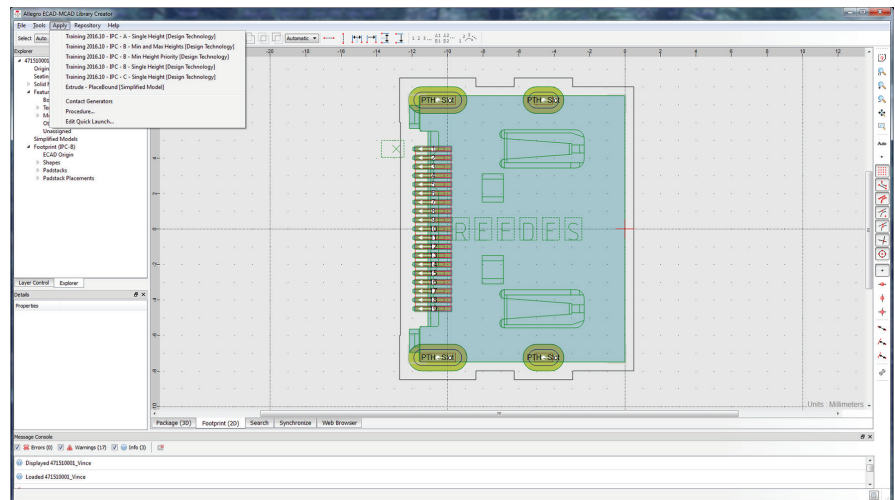

Figure 3: Use custom rules and templates to quickly retarget existing libraries to make new packages for various use cases

Key Features and Benefits

Automatic Footprint Generation	Advanced footprint generation rules support industry standards such as IPC-7351 or can be customized to satisfy design and/or manufacturing requirements
ECAD-MCAD Synchronization	Validate ECAD footprints against 3D models and quickly populate MCAD library from existing repository models
Library Retargeting	Repurpose existing libraries for different technologies by adjusting rules and rebuilding for rigid or flex circuits
Templates	Over 100 parametric templates for common terminal, body, and package families included
Leverage 3D Content	Use existing 3D models for footprint generation
Rule Editor	Create rules for footprint creation based on industry standards, use cases, and internal practices
Package Editor	Create new packages or customize an existing one to model a new component type

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