

P R O D U C T O V E R V I E W

Z u k e n - T h e P a r t n e r f o r S u c c e s s



DS-CR

PCB Library and Design Data Management



[z u k e n . c o m / d s - c r](http://zuken.com/ds-cr)

ZUKEN®

Robust PCB Design Process Management

DS-CR is an Engineering Data Management (EDM) environment that has been designed to support the specific requirements of PCB and multi-board design. It manages and consolidates CAD component libraries, material information, schematic and PCB layout data, and parts lists in a controlled release and revision process. With these capabilities, DS-CR represents a reliable source of information for all product development and change activities.

With its specific focus on the requirements of PCB design, DS-CR provides an important extension to installed PLM environments, which are typically optimized to handle mechanical data structures and engineering methodologies. DS-CR can be integrated with existing enterprise PLM environments thanks its object-oriented architecture.

DS-CR is built on an object-oriented industry standard database and runs on Windows® based clients. It is directly embedded into the user interface in Zuken's CR-8000 PCB Design environment, within the Design Gateway and Design Force authoring tools. This offers ease-of-use with a minimum of administrative overhead.

DS-CR is made up for the following modules that can also be deployed as a standalone:

- EDA Library Master (ELM): ECAD Library Management
- Component Master (CM): Material Management
- Engineering Desk Top (EDT): Design Data Management

- Components List Master (CLM): BOM Management
- PDM Connector: Integration of Library, Design data and BOM management into 3rd party PDM and PLM environments.

Release and Revision Management

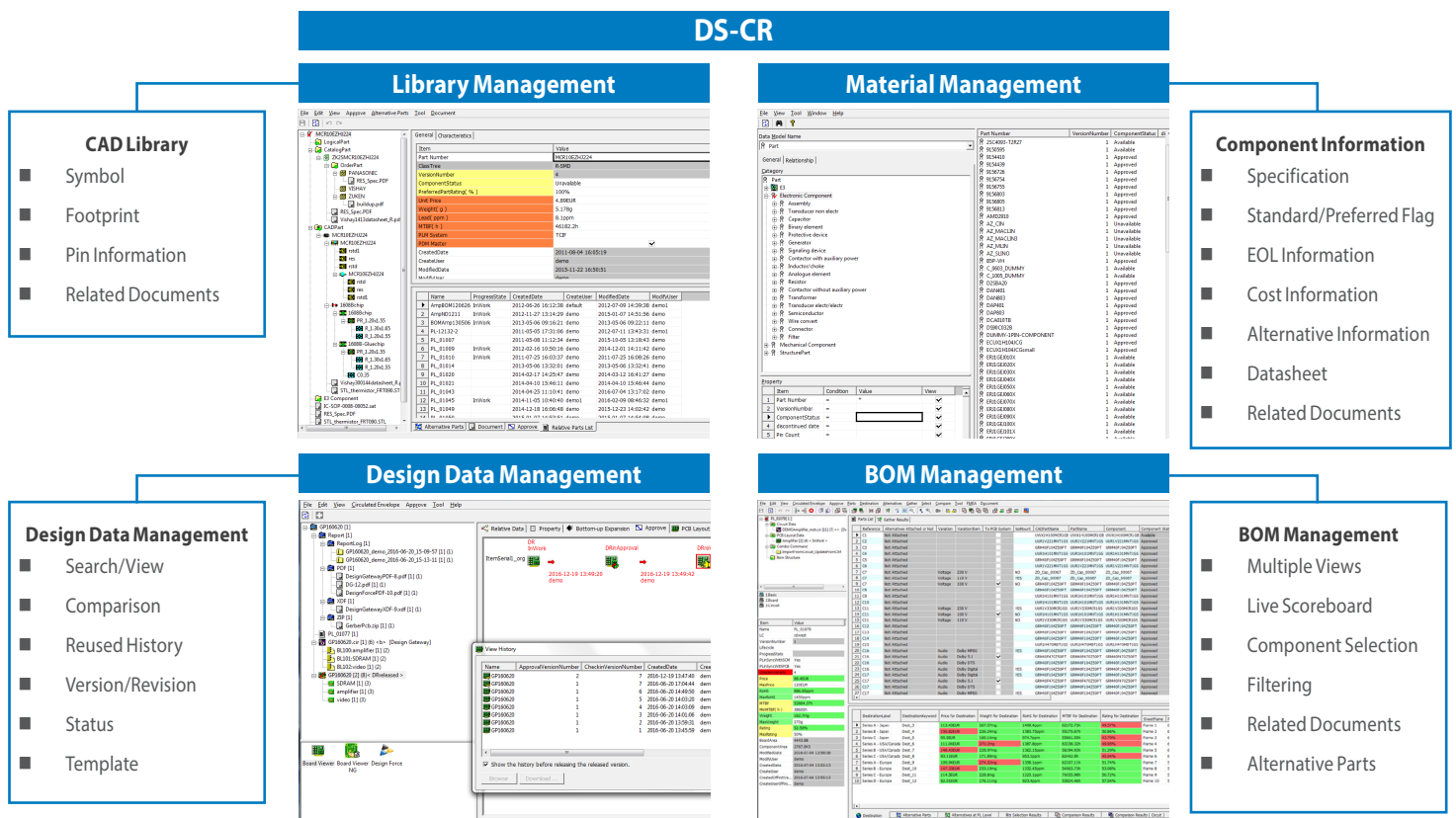
All DS-CR modules are supported by a comprehensive change and tracking functionality. This enables the implementation of centralized release and revision management processes for component and material libraries, schematics, PCB layouts and bills of material (BOMs).

DS-CR's component version and revision management functionality provides definition and tracking of versions of components and design data throughout the product lifecycle. Only valid component changes are distributed, preventing invalid or incomplete changes from being deployed.

Support of Multiple Locations

With its centralized data and revision management capabilities, DS-CR supports the synchronization of library and design data between geographically distributed teams across multiple locations.

To support individual characteristics and requirements of different production locations, DS-CR can manage specific library classes and BOM variants for different locations.



DS-CR manages and consolidates CAD component libraries, material information, PCB design data, and parts lists in a controlled release and revision process.

EDA Library Master (ELM)

The DS-CR EDA Library Master (ELM), manages all symbols, footprints and specifications required for the PCB design process.

Library Management

The DS-CR EDA Library Manager delivers consolidated ECAD library information to the engineer's desktop:

- Symbols
- Footprints
- Pin information
- Related documents.

EDA Library Master can be accessed from within the CR-8000 authoring environment. Access to validated and approved libraries significantly increases engineering productivity by eliminating time-consuming and error-prone manual search practices.

All library items managed in EDA Library Master are subject to DS-CR's version management functionality. Geometry information and symbols can be supported for multiple sites and within specific library classes.

Component Master (CM)

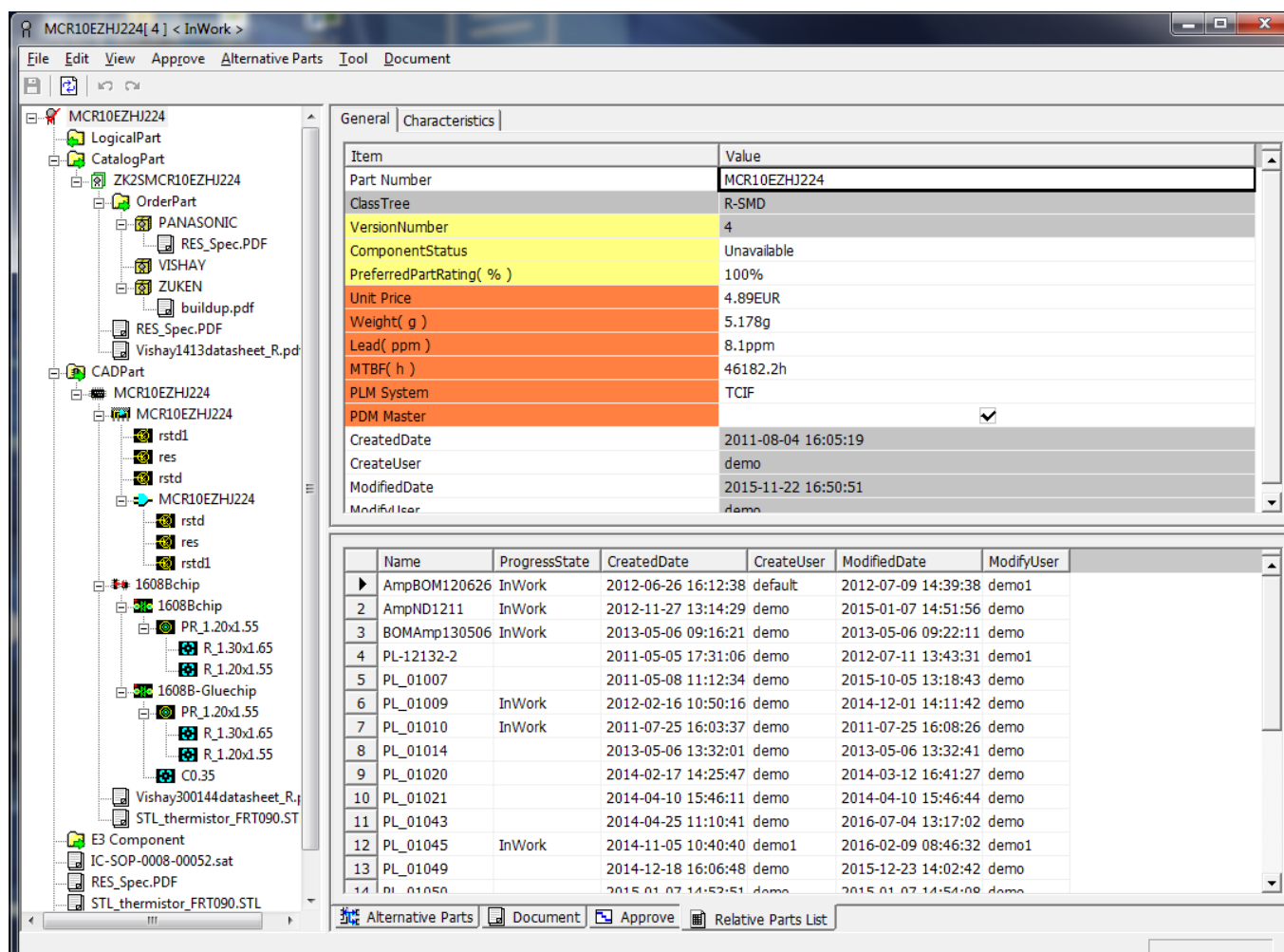
DS-CR's Component Master (CM) is a single-source environment for all component information within the engineering process.

Component Master consolidates ECAD Library items with material information (typically managed in an ERP environment).

Material Management

DS-CR Component Master (CM) provides access to consolidated component information:

- Specification
- Standard/preferred flag
- EOL information
- Cost information
- Alternative information
- Datasheets
- Related documents.



The DS-CR EDA Library Manager provides access to centrally managed ECAD component models and related information.

Component Master consolidates material master data such as cost, availability, alternative components and related information such as datasheets, which are typically managed in enterprise IT environments.

With these capabilities, Component Master enables a significant increase of engineering productivity by replacing time-consuming and error-prone manual search practices.

All material master data managed in Component Master are subjected to DS-CR's approval and lifecycle management functionality, which ensures that only approved and released components are used.

Engineering Desktop (EDT)

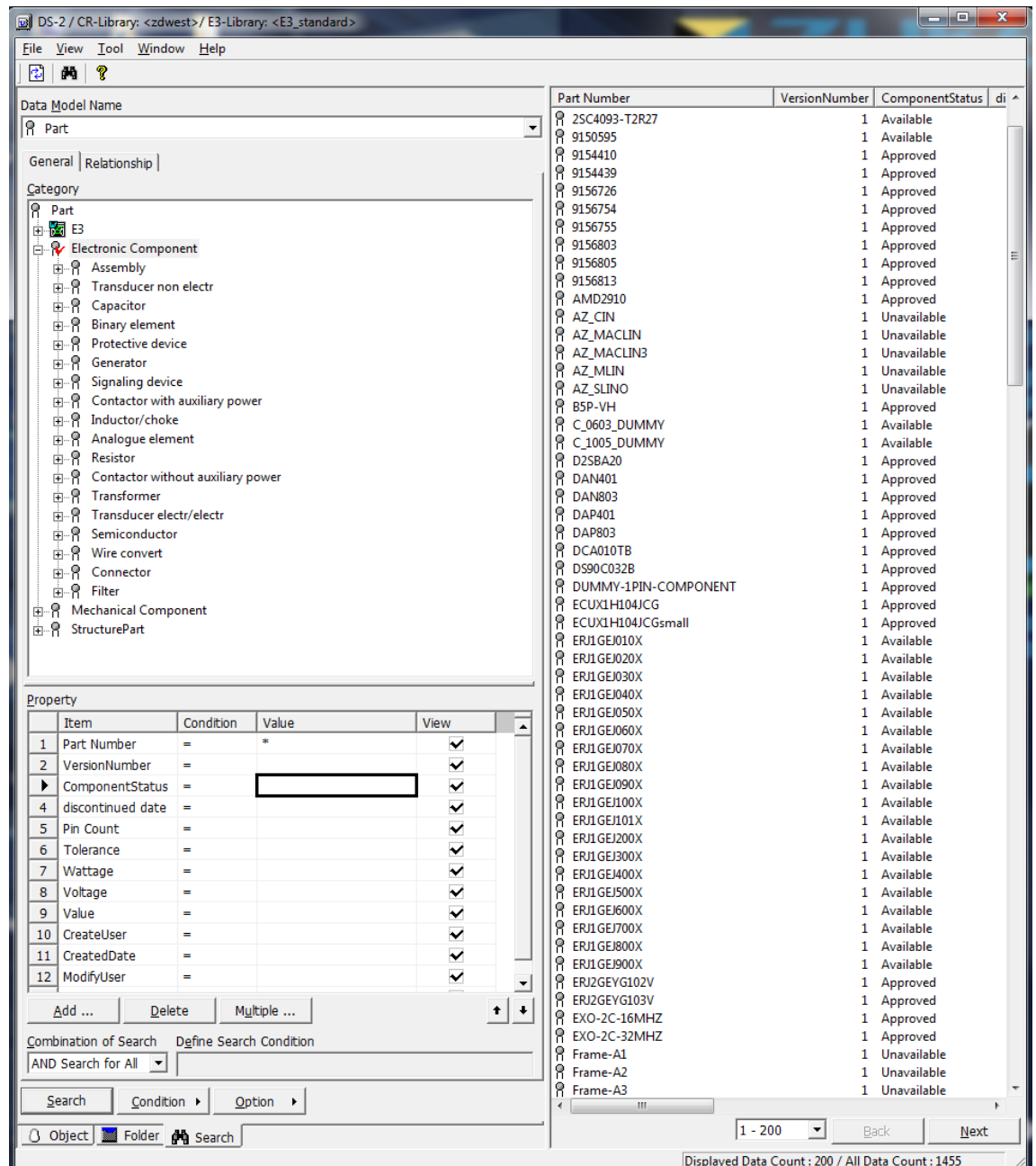
The DS-CR Engineering Desktop (EDT) provides CR-8000 design data and related documents in

a controlled environment, with comprehensive access control, revision management and analysis functionality. This includes simulation data, footprints, parts lists, and CAM data.

Design Data, Revision and Version Management

Engineering Desktop consolidates and synchronizes a comprehensive revision history of:

- Component libraries
- Schematics and schematic modules
- Simulation data
- PCB layout data
- CAD data
- Bills of material.



DS-CR Component Master (CM) provides access to consolidated material master data.

Engineering Desktop provides a central source of information by unifying all engineering data into one environment, and controlling synchronization to local or geographically-distributed development teams.

Capabilities include:

- Notification to users about shared or reused objects
- Objects that need to be released by the user
- Objects for which release needs to be requested from other users
- Objects that need to be checked-out by the user.

A built-in change management process provides a detailed description of each design data or document change, such as modifications to the specification, customer change, obsolescence, etc.

Engineering Desktop also supports the creation of modular circuit block libraries that can be retrieved and re-used in new designs, saving valuable engineering time and money. If single components need be updated because of sourcing issues, all instances will be automatically identified in "where used" analyses.

Component List Master (CLM)

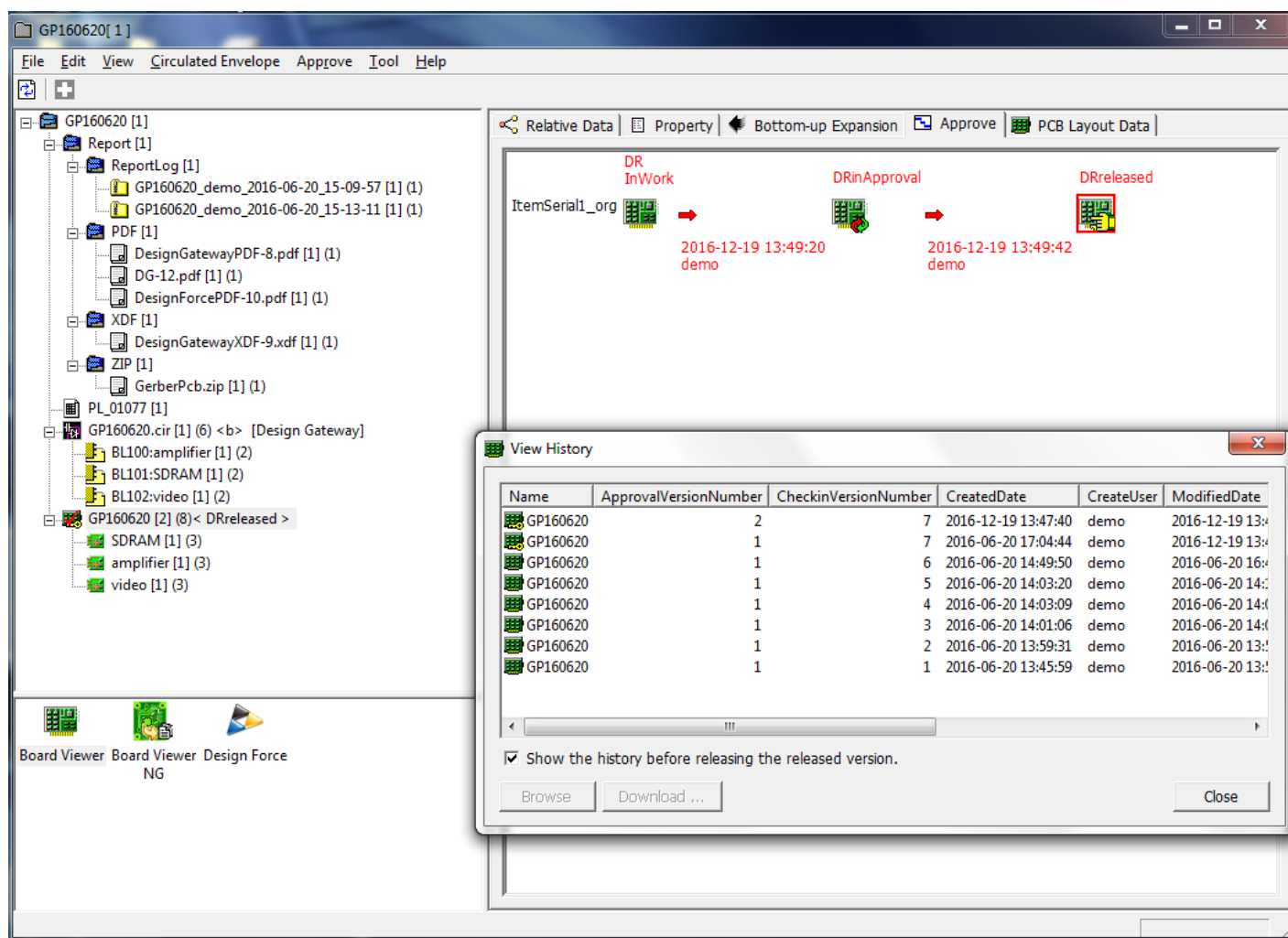
The DS-CR module **Component List Master** is used to generate accurate BOMs that combine all associated schematic and PCB data, component information, documents and drawings.

Generate and Manage BOM and BOM Variants

Component List Master automates and unifies BOM information in one single environment, and provides controlled synchronization of schematic, layout, parts lists and library data sets (four point comparison).

Capability Overview:

- Unify multiple variants to a single component list
- Offer alternative component selections with collaboration to the Component Master setting
- Deliver comparison with different component lists or earlier versions
- Create ECN / ECR / ECO for all component list entity levels



Engineering Desktop provides engineering and layout detail within a central source of information.

- Output where-used information
- Allow filtering condition definition (environment, price, production status, etc.)
- Direct cross-probes to CAD
- CSV import / export.

The built-in change management process delivers a detailed description of each component list object change, highlighting issues such as obsolescence, alternative definitions, preferred parts definitions and second source definitions etc.

Variants can support multiple locations, sites, as well as any variant and destination type.

PDM Connector

DS-CR has been designed to enhance existing PLM systems – not to replace them. In a typical scenario, DS-CR is used to manage work-in-progress design data. Once design milestones are achieved, BoM information will be synchronized with the PLM system.

DS-CR can integrate with all major PLM and ERP systems and provides SOA-based "plug & play" connectors; in addition, generic integration APIs are available for other third party systems.

The integration between DS-CR and third party PLM environments is bi-directional and includes the synchronization of material data, the bill-of-materials information and related documents. Variant flows to generate 100% BoM and documentation from a 150% BoM are also supported.

The screenshot displays the Zuken DS-CR software interface. The top menu bar includes File, Edit, View, Circulated Envelope, Approve, Parts, Destination, Alternatives, Gather, Select, Compare, Tool, FMEA, and Document. The left sidebar shows a tree view with 'PL_01079[1]' selected, containing 'Circuit Data', 'PCB Layout Data', 'Amplifier [2] (4) < InWork >', 'Combo Command', 'ImportFromCircuit_UpdateFromCM', and 'Item Structure'. Below this is a table with 'Item' and 'Value' columns, listing various attributes like Name, LC, VersionNumber, Lifecycle, ProgressState, PLnSyncWithSCM, PLnSyncWithPCB, ObsolescenceParts, Price, MaxPrice, RoHS, MaxRoHS, MTBF, MinMTBF(h), Weight, MaxWeight, Rating, MaxRating, BoardArea, ComponentArea, ModifiedDate, CreateUser, CreatedDate, CreatedOfFirstVe..., and CreateUserOfFirs....

The main area is divided into two sections. The top section is 'Parts List' with a 'Gather Results' button. It contains a table with columns: Reference, Alternatives Attached or Not, Variation, VariationItem, To PCB System, NoMount, CADPartName, PartName, Component, Component Status, and ModelNameDynamic. The bottom section is 'Variation' with a table showing columns: DestinationLabel, DestinationKeyword, Price for Destination, Weight for Destination, RoHS for Destination, MTBF for Destination, Rating for Destination, and a 'Variation' sub-table with columns: Sheetframe, Frequency, Chip Set, and Voltag.

The bottom status bar shows '166/166 Rows'.

Component List Master is used to generate BOMs.

Use Cases

With its comprehensive library and design data management capabilities, DS-CR provides an in-depth impact analysis and checking environment for engineering change management and analysis of impacted divisions, projects or project levels.

Component Analysis

DS-CR provides analysis of where components are used and what second sources are defined. The engineer also has access to criteria available to rate second source components for their order of usage.

Library Analysis

DS-CR provides in-depth analysis to maintain the best possible quality of library information before reusing libraries or its individual objects.

Where-used Analysis

DS-CR provides a where-used search capability that shows where a component is being used, whether it is used by other assemblies, which revision of the assembly it is in, etc.

Second Source Analysis

DS-CR offers a flexible way to rank components based on a customer's matrix, to ensure valid methods for engineers to bridge the gap between engineering technology decisions versus sourcing decisions.

Supplier Analysis

By combining the supplier information with technology, quality and source rating information, you can make an informed decision, considering all variables, to guarantee the right component is selected to deliver the best business results.

BOM Analysis

DS-CR provides BOM analysis based on the following criteria:

- Preferred vendor/supplier analysis
- Component technology analysis
- Component lifecycle analysis
- Price analysis
- Quality analysis
- Stock amount analysis
- Development and manufacturing approval analysis.

Variant and Destination Analysis

DS-CR is ideally suited to help with variant and destination management, while ensuring high levels of quality and reliability.

Four Point Comparison

To guarantee permanent synchronization between component lists, material master and related schematic and layout files, DS-CR provides a four point comparison method to cover all changes of related information, within a single comparison result window.

Failure Mode and Effect Analysis (FMEA)

DS-CR helps engineers to evaluate the recommended stress criteria of FMEA when de-rating electronic parts or components, and to define the maximum application stress values.

Preferred Parts List Analysis

PPLs generally include components pre-approved for use within a company, division or a given project. A PPL actively promotes approved parts and supports accurate part selection and type reduction.

Design Data Analysis

DS-CR supports the definition of data management analysis and design reuse plans for any given scenario:

- Design data analysis and reuse
- Design data search functionality that goes as deep as the raw data level
- Archiving of verified design data; particularly important to industries that have to maintain compliance with regulatory audits
- Design data transfer/access to allow users to work from any computer around the world.

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About Zuken

Zuken is a global provider of leading-edge software and consulting services for electrical and electronic design and manufacturing. Founded in 1976, Zuken has the longest track record of technological innovation and financial stability in the electronic design automation (EDA) software industry. The company's extensive experience, technological expertise and agility, combine to create world-class software solutions. Zuken's transparent working practices and integrity in all aspects of business produce long-lasting and successful customer partnerships that make Zuken a reliable long-term business partner.

Zuken is focused on being a long-term innovation and growth partner. The security of choosing Zuken is further reinforced by the company's people – the foundation of Zuken's success. Coming from a wide range of industry sectors, specializing in many different disciplines and advanced technologies, Zuken's people relate to and understand each company's unique requirements.

For more information about the company and its products, visit www.zuken.com.

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