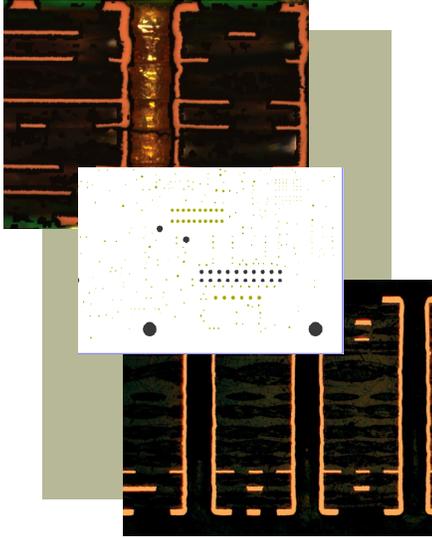


Simulated Thermal Cycling



Qualification testing can take months, only to find out that plated through holes and solder joints won't meet lifetime requirements. The only way to predict lifetime performance before test was Finite Element Analysis (FEA), but this was even more costly in both time and money. Now board level FEA that used to take days can be run in minutes.

Plated Through Hole Fatigue

Increased densities and board thicknesses, multiple laminate materials and aspect ratios all play a role in plated through hole reliability.

Temperature changes cause materials to expand and contract at different rates. Board laminates stress plated through holes (PTHs) and can ultimately crack the barrels, causing potentially difficult to detect intermittent opens. These stresses can be easily predicted using Sherlock CORE Tool's PTH Fatigue lifetime prediction calculator. This can save months of thermal cycle testing, weeks of failure analysis and ensure reliability is designed in from the first prototype to the finished product.

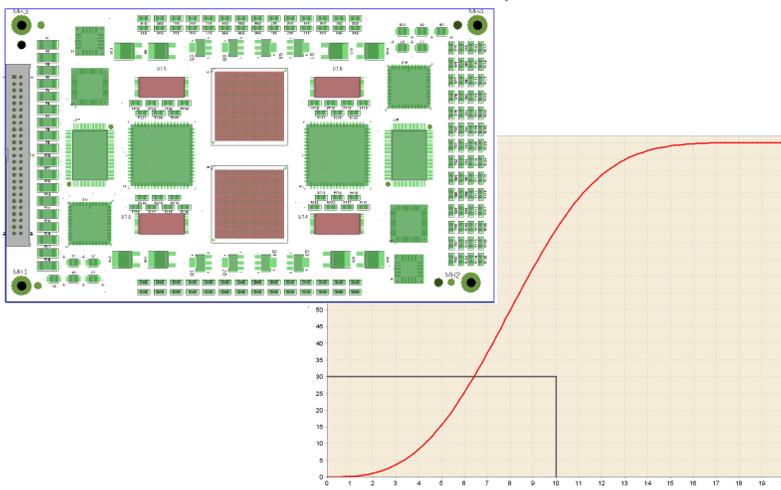
Multiple Profiles

DfR Solutions provides preset environments for many product classes and industries. Some are based on industry standards, and where those standards are unavailable, DfR has provided profiles based on the years of experience providing services to the electronics industry. Nobody understands your use environment like DfR Solutions. Sherlock uses that knowledge to empower your design team to provide designs that will meet your lifetime requirements.

- Preset Environments
- Customizable
- Risk Analysis
- Multiple Cycle Profiles
- Trade-off Analysis

Solder Joint Fatigue

Solder alloys and component packaging are changing faster than ever. Sherlock ensures that as obsolete technologies are replaced and new technologies are adopted, control over product reliability is never lost. Each new solder alloy responds uniquely to use environments, and the newer package types require new methods of evaluation. DfR Solutions has conducted extensive testing on both solder alloys and new and exotic package types, understands the physics behind their reliability, and has incorporated that knowledge in Sherlock's CORE Solder Joint module.



- Package Database
- Solder Database
- Material Database
- Automated Population
- Lifetime Prediction

Automated Modeling

You've already designed your product. You've created files that a manufacturer can use to build your product. Why is it then that until now, virtual product had to be manually pieced together from scratch? DfR's ADA CORE tool takes those very same manufacturing files you already generate and builds your product virtually. Gone are the days where a virtual model was weeks in the making. Design changes can be made on the fly. What-if analysis can be done in a fraction of the time it takes to get on a typical modeler's schedule. Mechanical simulation can be run in minutes, not days, providing you the answers you need to build a better product, faster and at a fraction of the cost.

Call us for more information!

Phone: (301) 474-0607

Fax: (240) 757-0053