

# Introducing Sherlock Automated Design Analysis<sup>™</sup> 3.0 with 3D Capability

#### The Revolution

Sherlock Automated Design Analysis<sup>™</sup> software revolutionized electronics reliability and design by enabling designers to predict product failure before a product was ever built, designing in product reliability early in the product development process. This revolutionary tool just got better.

#### The **Evolution**

Continuously innovating and evolving, Sherlock 3.0 incorporates enhancements enabling users to manage complex analyses more easily and faster than ever before.

**3D FEA Model and 3D Viewer** for ICT and Shock and Vibration analysis incorporate fully 3D elements for the PCB, components, and mount points enabling increased simulation accuracy and flexibility for faster analysis. The FEA 3D viewer allows users to visualize 3D models and results interactively and amplify and rotate results to visualize minute changes.

 File Wer
 Patters

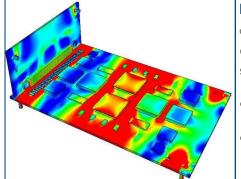
 Fettres
 Basen

 Insa
 Basen

 Insa
 Construction

 Construction
 Construction

- Multi-core and 64 bit support
- Faster analysis



**New Sub-Assembly Analysis** allows users to attach one or more circuit card sub-assemblies to the primary circuit card. The software automatically analyzes the main circuit card and all sub-assemblies during a single ICT or shock and vibration analysis.

- Mezzanine cards supported by standoffs
- Edge-connected cards

## Call for more information (301) 474-0607

9000 Virginia Manor Road Suite 290 Beltsville, MD 20705 ©2013 DfR Solutions

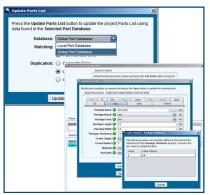
# dfrsolutions.com





**Global Parts Database** with private cloud storage allows users to store and share parts data across their projects and with other Sherlock users, reducing data entry time and increasing data accuracy.

- Operates 24/7 online
- View ranked alternative part data
- Complete privacy for all users

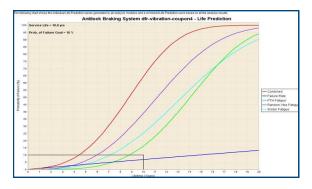


					Arc	ived Resu	Its - DEMO	1 2013-04	15_1420					
					File.1	hew.								
Archived Breatty	011012013-04-15	1020			-			- IOI 2	iontains all parts curr	ently defined for this CCA	The items are co	for coded so that	you know the d	
te View									Pouble-click on a ro	w to view all properties as	socialed with that	part		
Score Card	Stackup Properties								User AlL	PartsDB Packa		PickPlace		
Life Prediction	The following board properties are based on the currently defined board cultime and the individual layer properties								Problem Exists 🛓 Un-Confirmed 🥝 Confirmed   Part Count. 221 Unique Parts: 17					
Eniliza Data	shown below	o properses are bases	1 on the current	N OWNINGS DO	aro cueina a	53 014 Pigka	boar rayer pr	openes						
horit Criteation	Board Size: 191 x 115 mm (7.5 x 4.5 m) CTExy: 17.779 ppm/C							PartNumber	PartType	Packaging		atico		
		Board Thickness: 2.1 mm IB2.6 mill CTEz: 68.514 ppm/C							Panreamber	Part type	Packaging		3800	
CAF Failure														
PTH Fallgue														
Solder Faligue	Conductor Layers: 6 Ez: 3,503 IIPa													
Life Cycle									stNumber	PartTipe	Package	10	Location	
Parts List	Stackup Layers								THCICETTEINM	A CAPACITOR	A SMT	C-00100-3528-12	A TOP	
Stackup									TINCICOTTEINEM	A CAPACITOR	A SMT	C-0KND-3628-12	A TOP	
Layers	Double click any row to edit the properties for that layer or select one or more rows and press the Edit Selected button below to edit properties for a batch of layers. Press the Generate Stackup Layers button to replace all layers using a one-IPCB Inciness and default layers properties.								TINCICOTTEINIM	CAPACITOR	A SMT	C-8END-3528-12	A TOP	
									TINC1CETTE106M	A CAPACITOR	A SMT	C-8END-3528-12	A TOP	
	Laver Tipe	Material	Thickness	Decaby	CTER	CTEz	En:	F2	THCICETTEINM	A CAPACITOR	A SMT	C-BEND-3528-12	A TOP	
	1 SIGNAL	COPPER (14.9%)	0.5 00	2,8579	45.172	45.172	19.816	12.815	TINCICETTEINM	A CAPACITOR	A SMT	C-8END-3525-12	A TOP	
	2 Laminute	Generic FR-4	15.4 mil	1,9000	17.000	78.000	24,804	3,450	TINCICETTEINM	A CAPACITOR	A SMT	C-8END-3628-12	A TOP	
	3 POWER	COPPER (4.9%) /	1.0 40	2.1479	48.412	48.412	8,865	8.855	TINCICOTTEINIM	A CAPACITOR	A SMT	C-8END-3628-12	A TOP	
	3 POWER 4 Laminate	Generic FR-4	15.4 mil	1,9000	17.000	78.000	24,804	3.450	TINCICETTEINM TINCICETTEINM	A CAPACITOR		C-BEND-3628-12 C-BEND-3628-12		
	3 POWER 4 Laminate 5 SIGNAL	Generic FR-4 COPPER (1.6%) /	15.4 mil 0.5 cc	1,9000	17.000	78.000	24,804	3,450	TINC1CBTTE106M TINC1CBTTE106M		A SMT	C-8KNO-3628-12 C-8KNO-3628-12	A TOP A TOP A TOP	
	3 POWER 4 Laminate 5 SIGNAL 6 Laminate	Generic FR-4 COPPER (1.6%) / Generic FR-6	15.4 mil 0.5 cc 15.4 mil	1,9000 1,9136 1,9000	17.000 49.482 17.000	78.000 48.482 78.000	24,804 5,252 24,804	3,450 5,252 3,450	TINCICOTTEINM	A CAPACITOR	A SMT	C-8KNO-3628-12 C-8KNO-3628-12	A TOP	
	3 POWER 4 Laminate 5 SIGNAL 6 Laminate 7 SIGNAL	Generic FR-4 COPPER (1.6%) / Generic FR-4 COPPER (1.5%) /	15.4 mil 0.5 cc 15.4 mil 0.5 cc	1,9000 1,9136 1,9000 1,9065	17.000 49.482 17.000 42.514	78.000 48.482 78.000 49.514	24,804 5,252 24,804 5,142	3,450 5,252 3,450 5,142	TINC1CBTTE106M TINC1CBTTE106M		A SMT	C-8END-3525-12 C-8END-3525-12 1219	A TOP A TOP A TOP	
	3 POWER 4 Lansinate 5 SIGNAL 6 Lansinate 7 SIGNAL 8 Lansinate	Generic FR-4 COPPER (1.6%) / Generic FR-4 COPPER (1.6%) / Generic FR-4	15.4 mil 0.5 cc 15.4 mil 0.5 cc 15.4 mil	1,9000 1,9135 1,9000 1,9055 1,9000	17.000 49.482 17.000 49.514 17.000	78.000 48.482 78.000 49.514 78.000	24,804 5,252 24,804 5,142 24,804	3,450 5,252 3,450 5,142 3,450	TINCICETTEINM TINCICETTEINM 1210GC102KATIA	CAPACITOR	企 SMT 企 SMT 企 SMT 企 SMT 企 SMT	C-8END-3525-12 C-8END-3525-12 1219 1219 1219	A TOP A TOP A TOP A TOP	
	3 POWER 4 Laminate 5 SIGNAL 6 Laminate 7 SIGNAL	Generic FR-4 COPPER (1.6%) / Generic FR-4 COPPER (1.5%) /	15.4 mil 0.5 cc 15.4 mil 0.5 cc	1,9000 1,9136 1,9000 1,9065	17.000 49.482 17.000 42.514	78.000 48.482 78.000 49.514	24,804 5,252 24,804 5,142	3,450 5,252 3,450 5,142	TINC1CBTTE106M TINC1CBTTE106M 1210GC102KAT1A ECJ-4YE2A604 ECJ-4YE2A684 ECJ-4YE2A684	CAPACITOR     CAPACITOR     CAPACITOR     CAPACITOR     CAPACITOR     CAPACITOR     CAPACITOR     CAPACITOR	杀 SMT 杀 SMT 杀 SMT 杀 SMT 杀 SMT 杀 SMT	C-80ND-3535-12 C-80ND-3535-12 1219 1219 1219 1219	A TOP A TOP A TOP A TOP A TOP	
	3 POWER 4 Laminate 5 SIGNAL 6 Laminate 7 SIGNAL 8 Laminate 9 POWER	Generic FR-4 COPPER (1.0%) / Generic FR-4 COPPER (1.5%) / Generic FR-4 COPPER (4.9%) /	15.4 mil 0.5 cc 15.4 mil 0.5 cc 15.4 mil 10 cc	1 9000 1 9136 1 9000 1 9005 1 9000 2 1479	17.000 49.482 17.000 49.514 17.000 48.412	78 000 49 482 78 000 49 514 78 000 48 412	24,804 5,252 24,804 5,142 24,804 8,865	3,450 6,252 3,450 5,142 3,450 8,865	TINC1CBTTE186M TINC1CBTTE186M 1218QC182KAT1A ECJ-4YE2A684 ECJ-4YE2A684 ECJ-4YE2A684 ECJ-4YE2A684	A CAPACITOR A CAPACITOR A CAPACITOR A CAPACITOR A CAPACITOR A CAPACITOR A CAPACITOR	À SMT À SMT À SMT À SMT À SMT À SMT	C-8END-3528-12 C-8END-3528-12 1219 1219 1219 1219 1219 1219	À TOP À TOP À TOP À TOP À TOP À TOP À TOP À TOP	
	3 POWER 4 Laminate 5 SIGNAL 6 Laminate 7 SIGNAL 8 Laminate 9 POWER 10 Laminate	Ceneric FR-4 COPPER (1.5%) / Generic FR-4 COPPER (1.5%) / Generic FR-4 COPPER (4.5%) / Generic FR-4	15.4 mil 0.5 cc 15.4 mil 0.5 cc 15.4 mil 1.0 cc 15.4 mil	1 9000 1 9136 1 9000 1 9005 1 9000 2 1479 1 9000	17,000 48,482 17,000 42,514 17,000 48,412 17,000	78 000 48 482 78 000 49 514 78 000 48 412 78 000	24,804 5,252 24,804 5,142 24,804 8,865 24,804	3,450 6,252 3,450 5,142 3,450 8,865 3,450	TINC1CBTTE106M TINC1CBTTE106M 1210GC102KAT1A ECJ-4YE2A604 ECJ-4YE2A684 ECJ-4YE2A684	CAPACITOR     CAPACITOR     CAPACITOR     CAPACITOR     CAPACITOR     CAPACITOR     CAPACITOR     CAPACITOR	杀 SMT 杀 SMT 杀 SMT 杀 SMT 杀 SMT 杀 SMT	C-8END-3528-12 C-8END-3528-12 1219 1219 1219 1219 1219 1219	A TOP A TOP A TOP A TOP A TOP A TOP A TOP A TOP A TOP A TOP	
	3 POWER 4 Laminate 5 SIGNAL 6 Laminate 7 SIGNAL 8 Laminate 9 POWER 10 Laminate	Ceneric FR-4 COPPER (1.5%) / Generic FR-4 COPPER (1.5%) / Generic FR-4 COPPER (4.5%) / Generic FR-4	15.4 mil 0.5 cc 15.4 mil 0.5 cc 15.4 mil 1.0 cc 15.4 mil	1 9000 1 9136 1 9000 1 9005 1 9000 2 1479 1 9000	17,000 48,482 17,000 42,514 17,000 48,412 17,000	78 000 48 482 78 000 49 514 78 000 48 412 78 000	24,804 5,252 24,804 5,142 24,804 8,865 24,804	3,450 6,252 3,450 5,142 3,450 8,865 3,450	TINC1CBTTE186M TINC1CBTTE186M 1218QC182KAT1A ECJ-4YE2A684 ECJ-4YE2A684 ECJ-4YE2A684 ECJ-4YE2A684	A CAPACITOR A CAPACITOR A CAPACITOR A CAPACITOR A CAPACITOR A CAPACITOR A CAPACITOR	À SMT À SMT À SMT À SMT À SMT À SMT	C-8290-3628-12 C-8290-3628-12 1290 1290 1290 1290 1290 1290 1290 12	À TOP À TOP À TOP À TOP À TOP À TOP À TOP À TOP	

**Improved Result Management** functionality enables more powerful analysis and flexibility. Users can organize results in any convenient manner with multiple viewers allowing side by side review and comparison of past and present results.

- Launch from within Sherlock or from your desktop
- Multiple viewers can be active at the same time

**Embedded Failure Rate Models** – in addition to a Physics of Failure based analysis, Sherlock 3.0 incorporates MIL HDBK-217 and SSR-332, and custom failure rate models. Sherlock automatically computes a failure rate for each circuit card component based on the part data currently defined in the parts list. This enhanced feature significantly reduces data entry and maintenance across a collection of circuit card assemblies and projects over a period of time.



Sherlock Automated Design Analysis<sup>™</sup> software is the first-of-its-kind tool for analyzing, grading, and certifying the expected reliability of products at the circuit card assembly level. The intuitive commands and ease of use enable use among a broad range of engineers and managers, where rapid results provide almost immediate feedback on product designs and their performance in the hands of the customer.

Sherlock enables electronics manufacturers to design-in reliability earlier in the product development process contributing to quicker time to market, reduced development costs, improved customer satisfaction, and higher profits.

### Call for more information (301) 474-0607

9000 Virginia Manor Road Suite 290 Beltsville, MD 20705 ©2013 DfR Solutions

## dfrsolutions.com

