

3M Releases Material Library for Use in ANSYS Simulation Software

3M Embedded Capacitance Material now available in HFSS and SIwave

Printed circuit board (PCB) and integrated circuit (IC) package design engineers can now download a simulated model of Embedded Capacitance Materials (ECM) from 3M for use in HFSS™ and SIwave™ engineering simulation software. Part of the Ansoft family of products from ANSYS, Inc. (NASDAQ: ANSS), HFSS and SIwave technologies enable design engineers to perform complete signal- and power-integrity analyses from DC to beyond 10 Gbps on PCBs and IC packages. The availability of 3M ECM in the HFSS and SIwave programs means that design engineers can better address their noise issues early in the design cycle by incorporating the material into their design simulations, resulting in improved performance with fewer design spins.

3M ECM is a thin, high-performance embedded capacitor laminate that helps reduce impedance, power bus noise, EMI and discrete capacitor count. The material allows design engineers to differentiate their products through dramatically improved performance and reduced size because the laminate uses less board “real estate” than surface mounted decoupling capacitors. 3M ECM is compatible with most rigid and flex PCB processing, including laser drilling. Fabricators and OEMs worldwide may use 3M ECM without purchasing a license from 3M. The material is RoHS Compliant 2005/95/EC*.

“3M’s embedded capacitance material library will give HFSS and SIwave simulation software users a real competitive advantage,” said Larry Williams, director of product management at ANSYS. “State-of-the-art product design must incorporate advanced technology materials and tools. Providing easy access to these next-generation 3M materials means that designers can concentrate on improving the signal and power integrity of their products in development rather than at the prototype stage.”

The 3M ECM library can be downloaded for use within ANSYS products at <http://www.ansoft.com/products/hf/hfss/3MEmbeddedCapacitanceMaterial.cfm>.

HFSS technology is the industry-standard software for 3-D full-wave electromagnetic field simulation for design, simulation, and validation of complex RF, microwave, high-speed channel and power-delivery systems in modern, high-performance electronics. SIwave software is an electromagnetic field solver that performs broadband signal- and power-integrity analyses along with DC voltage and current analysis for complete boards and packages with HFSS technology. SIwave offers comprehensive electromagnetic interference and compatibility analyses, and it has the unique ability to couple board and package electromagnetic fields for complete system-level simulation.

“Because HFSS is industry-standard simulation software for design engineers, it just made sense for 3M to participate in the Ansoft tools design library,” said Vishal Pahwa, global lead for Embedded Capacitance Material, 3M Electronic Solutions Division. “3M’s Embedded Capacitance Material gives design engineers an excellent tool to improve electrical performance and ultimately create better products.”

*RoHS Compliant 2005/95/EC means that the product or part (“Product”) does not contain any of the substances in excess of the maximum concentration values in EU Directive 2002/95/EC, as amended by Commission Decision 2005/618/EC, unless the substance is in an application that is exempt under EU RoHS. Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

About ANSYS, Inc.

ANSYS, Inc., founded in 1970, develops and globally markets engineering simulation software and technologies widely used by engineers, designers, researchers and students across a broad spectrum of industries and academia. The Company focuses on the development of open and flexible solutions that enable users to analyze designs directly on the desktop, providing a common platform for fast, efficient and cost-conscious product development, from design concept to final-stage testing and validation. The Company and its global network of channel partners provide sales, support and training for customers. Headquartered in Canonsburg, Pennsylvania, U.S.A., with more than 60 strategic sales locations throughout the world, ANSYS, Inc. and its subsidiaries employ over 1,600 people and distribute ANSYS products through a network of channel partners in over 40 countries. Visit www.ansys.com for more information.

About 3M Electronic Solutions Division

3M Electronics Solutions Division offers innovative solutions to the electronics market, such as static control products; copper interconnect systems; cables and cable assemblies; carrier and cover tapes and trays; flexible circuits; embedded capacitor materials; and Textool brand test and burn-in sockets. For more information on these solutions available from the 3M Electronic Solutions Division, visit <http://www.3Mcapacitance.com>.

More information about 3M Company, available [online](#).

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3MJane Kovacs, 512-984-6747 jkovacs@mmm.com twitter @3MJaneorFor all other inquiries:
<http://www.3m.com/MediaContact>

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