Rogers Offers High-Performance Circuit Materials & Design Guidance at 2011 MTT-S

Representatives from Rogers Corporation's Advanced Circuit Materials Division (ACMD) will be on hand at the upcoming 2011 IEEE International Microwave Symposium (IMS) (www.ims2011.org [1]) to share insights on the optimum use of the company's high-performance circuit materials, including its RT/duroid 6035HTC, and RO4360 laminates.

Members of Rogers ACMD will be on hand to discuss the benefits and advantages of their printed-circuit-board (PCB) materials in high-frequency analog and high-speed digital circuits. For designers of high-power, high-frequency circuits, such as power amplifiers and beam-forming networks, RT/duroid 6035HTC features outstanding thermal conductivity of 1.44 W/m-K with z-axis dielectric constant of 3.5 and low loss tangent of 0.0013 at 10 GHz. RT/duroid 6035HTC laminates consist of a high-thermal-conductivity (HTC) fluoropolymer composite with thermally stable, reverse-treated and electrodeposited copper foil and a unique filler material that helps minimize wear on machine tools compared to competitors' high thermal conductivity substrates that use abrasive fillers.

Rogers' cost-effective RO4360 laminates are also characterized by FR-4-like processing ease, but with a tailored dielectric constant of 6.15 @ 10GHz. RO4360 materials are glass-reinforced thermoset materials with a low dissipation factor of 0.0038 at 10 GHz. The high dielectric constant allows designers of high-frequency circuits, such as antennas and amplifiers, to create miniature designs compared to circuit-board materials with lower dielectric-constant values. RO4360 laminates have a low coefficient of thermal expansion (CTE) of 30 ppm/°C for reliable plated through holes (PTH) and an excellent thermal conductivity value of 0.8 W/m-K,

Visitors to Rogers' booth will also have a chance to learn about the Advanced Circuit Materials Division's Technology Support Hub. It is an efficiently organized information center within the Rogers website (http://www.rogerscorp.com/acm/technology [2]) that offers a free download of Rogers' Microwave Impedance Calculator software for calculating transmission-line impedance values on different materials as well as an operator's manual for the software. The Technology Support Hub also provides a wealth of articles based on the use of Rogers' materials, technical reports, and design tips, as well as a quick link to an engineer when technical assistance is needed. Visitors to Rogers' booth will have access to a personal computer and can register as a user of the Technology Support Hub, for free access to its many benefits.

In addition to their presence on the exhibit floor, Rogers will be represented in the MicroApps program, a series of technical and panel sessions running concurrently with the IMS exhibition. John Coonrod, Rogers' Market Development Engineer, and author of many technical articles as well as the popular "ROG" blog

(www.rogerscorp.com/acm [3]), will make a 20-minute presentation on Tuesday, June 7, 2011, at 12:10 PM. Entitled “Understanding the Proper Dielectric Constant of High Frequency Laminates to Be Used for Circuit Modeling and Design,”. His talk will provide additional insights into the importance of knowing which value of relative dielectric constant should be applied when modeling or designing high-frequency circuits.

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