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Upcoming Thermal Conductivity Webinar

<u>C-Therm Technologies</u> manufactures thermal analysis instrumentation, specializing in equipment for analysis of thermal conductivity, thermal effusivity, and coefficient of thermal expansion. Our patented <u>Modified Transient Plane Source (MTPS)</u> technique of thermal conductivity analysis enables speedy and accurate testing across a wide range of sample materials with minimal sample preparation. We regularly offer free online seminars - or "webinars" - to provide information on new applications of our thermal analysis technologies and to offer participants an opportunity to learn how C-Therm's clients are using the innovative sensor technology. The webinar is a combination of a live Powerpoint show presented over the internet, and a conference call with participants. A short Q&A period follows the presentation. Please browse our listing of live upcoming webinars below or check our library of past <u>archived webinar recordings</u>.

Date	Time (EST)	Topic
January 14, 2016	1 PM	Thermal Conductivity of Printed Circuit Board Dielectric Materials with Guest Speaker Douglas G. Brooks, President of UltraCAD Design

Registration:

Registration is required for the above-listed webinar. Please email <u>info@ctherm.com</u> with the title of the webinar in the subject line of the email to register your interest and to receive instructions on how to join us for the event. Please note that if the time is not convenient for your group, C-Therm does offer custom private webinars. Please inquire further for more details.

Topics:

Thermal Conductivity of Printed Circuit Board Dielectric Materials

Special Guest Lecturer: Douglas G. Brooks, President of UltraCAD Design, Inc.

Bio: Douglas Brooks has advanced degrees both from Stanford University and the University of Washington. He has worked high-profile companies such as Hughes Aircraft Co., LODEC Inc., ELDEC Inc, and Kistler-Morse. He is a regular contributor to trade publications such as Printed Circuit Board Design & Fab and PCB Design 007, and is the author of "Signal Integrity Issues and Printed Circuit Board Design" (2003) and "PCB Currents: How They Flow, How They React," (2013), both published by Prentice Hall. Prentice Hall has also released a 7+ hour video lesson series "PCB Signal Integrity LiveLessons" covering all of the information in Brooks' signal integrity seminars. Douglas Brooks is a highly sought-after speaker and has been requested to speak internationally in places such as Moscow, Beijing, and Melbourne.

Details: Printed circuit boards (PCBs) are ubiquitous in modern technology. For those traces that will carry a significant current, it is important to size the trace correctly in order to control the temperature of the trace. Too small a trace can result in excessive temperature (reliability is directly related to trace temperature) while too large a trace can waste valuable board area. Increasingly, PCB designers are looking to computer thermal modelling and simulation to optimize trace size. Imperative to the construction of an



accurate simulation model is accurate thermal conductivity data, which can vary for PCB materials from manufacturer to manufacturer and in some cases even from batch to batch. Here, a discussion of the importance of thermal conductivity data to PCB design is presented, along with an example of a problem in which direct measurement of thermal conductivity explained an apparent inconsistency between measured empirical data and theoretical modelling.

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