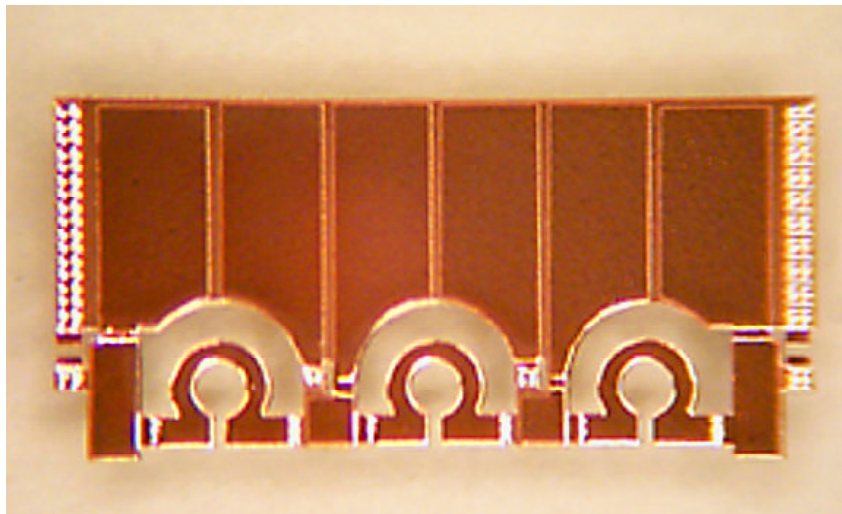


ADVANCE PROGRAM AND REGISTRATION

IMAPS Advanced Technology Workshop on **Passive Integration**

HILTON MARCO ISLAND BEACH RESORT
MARCO ISLAND, FL 34145
JANUARY 24 - 26, 2005



3 stage Pi network 2 GHz bandpass filter using Cu/BCB on flex,
fabricated at the University of Arkansas

General Chair:

Dr. Leonard Schaper
University of Arkansas
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Technical Program Chair:

Dr. Richard Ulrich
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TECHNICAL PROGRAM & REGISTRATION ON-LINE: WWW.IMAPS.ORG/PASSIVES



Sponsored by:

The International Microelectronics And Packaging Society (IMAPS)
"Everything in electronics between the chip and the system"

Early Registration and Hotel Deadline: December 17, 2004

Workshop Overview

The Advanced Technology Workshop (ATW) on Passive Integration features the latest papers on integrating resistors, capacitors, and inductors into modules and printed wiring boards; including papers from industry leaders IBM, STMicroelectronics, California Micro Devices, AVX, 3M, Fujitsu, NEC, Oak Mitsui, Motorola, and others. An interactive demonstration of Mentor Graphics' design system will also be presented. Papers from Georgia Tech, the University of Arkansas, IMEC, and others will discuss the leading edge of the technology.

Passive technologies are essential for implementing System-in-Package functionality. This workshop is an opportunity for module and system designers to interact with the industry leaders who are bringing integrated passive technologies to the marketplace.

Monday, January 24

Registration: 7:30 am - 6 pm

Continental Breakfast: 8 am - 9 am

SESSION I: APPLICATIONS I

9 am - Noon

Chair: Leonard Schaper, University of Arkansas

Embedded Passives for Digital System Applications
Moises Cases, Nam Pham, Daniel N. deAraujo, Pravin Patel, IBM Corporation

Thin Film Passive Integration inside System In Package
Eric Bernier, STMicroelectronics

Thin Film for the Realization of High Quality On-Chip and In-Package RF Passives
Geert Carchon, Walter De Raedt, Eric Beyne, IMEC-MCP/HDIP

Break: 10:30 am - 11 am

Novel SrTiO₃-Based Flexible and Thin Capacitors
Akinobu Shibuya, Shintaro Yamamichi, NEC Corporation

Electrical Performance Limitation of On-Package Decoupling Capacitors
Leonard W. Schaper, University of Arkansas

Chip Package Co-Design of Receiver Front-End for 5 GHz Wireless LAN Applications
Yasar Amin, Hannu Tenhunen, Li-Rong Zheng, Xinzhong Duo, University of Engineering and Technology Taxila, Pakistan

Lunch: 12:30 pm - 1:30 pm

SESSION 2: COMPONENTS AND LAYOUT

2 pm - 3:30 pm

Chair: Leonard Schaper, University of Arkansas

Trimming Embedded Resistors using Ink Jet Technology
Virang G. Shah, Donald J. Hayes, MicroFab Technologies, Inc.

High Q Planar Inductors and their Applications in Thin-Film Integrated Passive Devices
George Korony, AVX Corporation

Design of Multilayer Embedded Passive Circuits using a PEEC Simulation Tool

W. R. Smith, RF Design Consultant

Break: 3:30 pm - 4 pm

DEMONSTRATION OF MENTOR GRAPHICS EMBEDDED PASSIVE LAYOUT SOFTWARE

4 pm - 5 pm

SPEAKER: PER VIKLUND, MENTOR GRAPHICS

Reception: 5 pm - 5:30 pm

Dinner: 5:30 pm - 6:30 pm

Tuesday, January 25

Registration: 7:30 am - 8 pm

Continental Breakfast: 8 am - 9 am

SESSION 3: DECOUPLING

9 am - Noon

Chair: Richard Ulrich, University of Arkansas

Decoupling High Speed Digital Electronics with Embedded Capacitance

Joel S. Peiffer, 3M Company

Are Supercapacitive Nanocomposite Thin Films Suitable for Embedded Decoupling?

P. Markondya Raj, Devarajan Balaraman, Vinu Govind, Isaac Robin Abothu, Swapan Bhattacharya, Madhavan Swaminathan, Rao Tummala, Georgia Institute of Technology

Decoupling Capacitors by Reactive Sputtering and Anodization Processes

Rohit Raghuvver, Susan L. Burkett, Leonard W. Schaper, Richard K. Ulrich, University of Arkansas - HiDEC; Bridget Rogers, Vanderbilt University

Break: 10:30 am - 11 am

Integration of Thin Film Capacitors on Organic Laminates for Systems in Package Applications

Takeshi Shioga, John D. Baniecki, Yoshikatsu Ishizuki, Masataka Mizukoshi, Kazuaki Kurihara, Fujitsu Laboratories Ltd.

Decoupling Simulation for Embedded Capacitors
Richard K. Ulrich, University of Arkansas

Lunch: 12:30 pm - 1:30 pm

Afternoon Free

Reception: 5 pm - 5:30 pm

Dinner: 5:30 pm - 7 pm

**PANEL DISCUSSION
(LATE DEVELOPMENTS)
7 pm - 9 pm**

Wednesday, January 26

Registration: 7:30 am - Noon

Continental Breakfast: 8 am - 9 am

**SESSION 4: APPLICATIONS II
9 am - Noon**

Chair: Richard Ulrich, University of Arkansas

Integrated Passive Filter Incorporating Inductors and ESD Protectors
Dominick Richiuso, Anguel Brankov, Rong Liu, California Micro Devices

Integrated Low-Cost Thin-Film RF Filters on Glass
Ernest Demaray, Symmorphix

TBD
Robert Croswell, Motorola

Break: 10:30 am - 11 am

Development and Manufacture of LTCC Resistors for A6S/A6M
Tape
Michail Moroz, Ferro Electronic Material Systems

Design of Embedded Capacitors in PCBs and Organic Chip Packages
using Ultra-Thin Substrates
John Andresakis, Takuya Yamamoto, Pranabes Pramanik, Oak-Mitsui Technolo-
gies, LLC; Nick Biunno, Sanmina-SCI Corporation

IMAPS 2004 is just around the corner....

37th International Symposium on
Microelectronics

Long Beach Convention Center

November 14 - 18, 2004

www.imaps2004.org

15 Professional Development Courses

Hands-on Factory Training Workshop

50 Technical Sessions

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event!

Mark Your Calendar....

**Reliability of Advanced Electronic Packages
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Pasadena, CA

February 21 - 23, 2005

www.imaps.org/extremecold

Device Packaging Conference

Scottsdale, AZ

March 13 - 16, 2005

www.imaps.org/devicepackaging

**Ceramic Interconnect and Ceramic
Microsystems Technologies Conference**

Baltimore, MD

April 10 - 13, 2005

www.cicmt.org

IMAPS 2005

Philadelphia, PA

September 25 - 29, 2005

www.imaps2005.org

REGISTRATION FORM

REGISTER ON-LINE AT WWW.IMAPS.ORG/PASSIVES

PASSIVE INTEGRATION ATW - JANUARY 24 - 26, 2005

Dr. Mr. Ms. Member ID# _____
First Name _____ M.I. _____ Last Name _____
Company/Affiliation _____ Job Position _____
Address _____
City _____ State _____ Zip _____ Country _____
Phone _____ Fax _____ Email _____

REGISTRATION FEES: EARLY REGISTRATION ENDS 12/17/04

WORKSHOP FEES

(On or before 12/17) (After 12/17)

Member (IMAPS) \$515 \$615
 Non-member* \$615 \$715

*Includes one-year individual membership in IMAPS

Speaker/Chair \$300 \$400

Workshop Fees include an Abstract Book and a CD of Presentations. CD of Presentations will be mailed 10 business days after the event.

ADDITIONAL PURCHASES

Guest/Family Member (meals only) \$150 \$150
 CD of Presentations (Member Rate) \$100 \$100
 CD of Presentations (Non-Member Rate) \$175 \$175
 Add to Ship in the US \$7 \$7
 Add to Ship Overseas \$25 \$25

Housing (Hotel Cut-off is December 17, 2004)

Housing Accommodations **must** be made directly to:

Hilton Marco Island Beach Resort

560 South Collier Boulevard

Marco Island, FL 34145

P: 239-394-5000

www.marcoisland.hilton.com

When making reservation, please reference IMAPS.

Single/Double: \$169

Hilton Marco Island Beach Resort requires a deposit for the first night's room and tax to hold your room. Deposit refunded if reservation is cancelled fourteen (14) days prior to arrival; after which deposit is non-refundable.

PAYMENT

Workshop Fee: \$ _____

Additional Purchases: \$ _____

Total Payment Due: \$ _____

A \$25 fee must be added to all Wire Transfers.

Enclosed is a check payable in US funds to IMAPS

Charge my fees to:

Visa MasterCard Discover Amex Diners Club

Card# _____ Exp. _____

Signature _____

Card billing address, if different from above: (required)

Mail this form with payment to: IMAPS * 611 2nd Street, NE * Washington, DC 20002-4909. For credit card transactions, register on-line: www.imaps.org; or register by phone with your credit card by calling 202-548-4001; Fax: 202-548-6115. Additional information? E-mail: IMAPS@imaps.org, or visit our web site: <http://www.imaps.org>. Cancellations will be refunded (less a \$50 processing fee) only if written notice is postmarked on or before **January 7, 2005**. No refunds will be issued after that date.

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