

LA/OC SMTA CHAPTER NEWS

NOVEMBER 2005 EDITION

LA/OC SMTA
is Proud to Present...
November 2005 Presentation
Dinner Meeting

SPEAKER
John Andresakis
VP - Strategic Technology

TOPIC
Embedded Capacitors
DATE
Thursday, Nov. 17th, 2005

AGENDA
6:00PM, Social Hour
7:00PM, Dinner/Presentation

MEETING FEES
\$20, Members
\$25, Nonmembers

MENU
Roast of Round Beef

LOCATION
Embassy Suites
3100 East Frontera
Anaheim, CA

LA/OC SMTA
is Proud to Present...
December 2005 Christmas
Party

FEATURING
Merlin's Magic Dinner Theater

DATE
Friday, Dec. 9th, 2005
TIME

7:00PM, Seating
7:30PM, Showtime/Dinner
COST

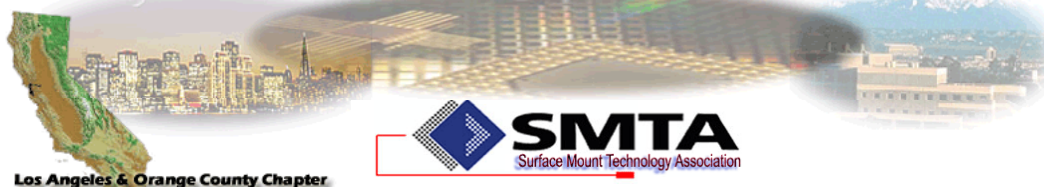
\$35, Members
\$40, Nonmembers
\$20, Member/Nonmember Child
Prices Includes All You Can Guzzle
Non-Alcoholic Beverages, Dessert,
Tax, and Gratuity

ADULT MENU
Homemade Soup of the Day
Bar-B-Q Chicken / Babyback Ribs
Honey-baked Cornbread, Creamy
Coleslaw & Bar-B-Q Baked Beans

LOCATION
Merlin's Magic Dinner Theater @
Rib Trader Restaurant
2710 East Chapman Avenue
Orange, CA. 92869; 714.744.9288

VIEW MORE DETAILS
Page 3 or <http://www.laocsmta.org>

EVENT RESERVATIONS
<http://www.laocsmta.org/reservation.php>
NO SHOWS WILL BE INVOICED
If you can not attend, please cancel your
reservation by 12 Noon on Wednesday,
prior to the meeting. See you there!



LA/OC SMTA CHAPTER IS PROUD TO PRESENT...
NOVEMBER 2005 DINNER & PRESENTATION MEETING
Embedded Capacitors in PCB's and Organic Chip Packages
Presented By: John Andresakis, VP - Strategic Technology, Oak-Mitsui Technologies

PRESENTATION ABSTRACT

As designers strive to integrate more functionality into even smaller PCBs and chip packages, improve electrical performance, and reduce surface mount components, the necessity to embed passive components continues to grow. Capacitors are a good candidate for embedding into PCBs and an organic chip package structure. An overview of the existing thin dielectrics for use as embedded capacitor layers in printed circuit boards will be presented. These materials are particularly useful for high-speed digital circuits due to their much lower inductance. Based on this work we have continued to characterize the performance and reliability of these materials as well as develop materials that would be suitable for embedding in organic chip packages.

To provide sufficient embedded capacitance on small form factor substrates (to displace discrete capacitors on the surface), a higher capacitance density is required. Thinner dielectrics will help raise the capacitance density, but it is believed that loading the polymer with high dielectric (ferroelectric) particles will provide the best values for this type of capacitor. We will exam the effect of loading the polymer with High Dk particles and compare the positive and negative aspects of using fillers.

The experiences of fabricators in processing the material and review the results of the various reliability studies will be presented. Both the mechanical and electrical performance of these substrates will be examined. The results of internal and external testing (and a comparison to existing and developing capacitor materials) will help determine what benefit(s) versus tradeoffs of using a high Dk filled polymer substrate.

Finally, simulation tools have been developed to characterize the benefits of embedded capacitance prior to actually building any product. Results from a simulated board will be presented.

SPEAKER PROFILE

John Andresakis, Vice President of Strategic Technology for Oak-Mitsui Technologies, has over 24 years experience in the manufacturing of Printed Circuit Boards. Before Oak-Mitsui, he was Engineering Manager for Hadco Corporation (now part of Sanmina-SCI Corporation) at both their Owego, NY and Hudson, NH facilities. In addition to Hadco, John was in Technical Management at Nelco, Digital Equipment and IBM. He holds a Masters Degree in Chemical Engineering from the University of Connecticut and a Bachelors of Engineering Degree from Cooper Union. He has received 6 patents related to PCB Production and is a member of the IPC Suppliers Technology Council and the various IPC committees developing specifications for Embedded Passives.

What's Inside this Months News Letter...

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Presidents Message

By: Scott Penin

We would like to thank Dr. Harvey Stone of The Goodbye Chain Group for his presentation “**Complying with RoHS: Key Issues, Best Practices and Critical Steps**”.

Dr. Stone addressed the major key issues for implementation from financial to implementation. He brought in Dr. Brian Toleno of Henkel Corporation, who addressed the process aspect of the implementation, as well as a teleconference call with the law firm of Allen & Overy who addressed identification of compliance. Thank you also to Bob Warren and Skyworks Solutions Inc. as this was the third year we were able to use their facility.

Our November meeting will be presented by John Andre-sakis of Oak-Mitsui Technologies, LLC and will address advancements in embedded devices to printed circuit boards. Please read more at our website www.laocsmta.org.

As December approaches, we have organized our annual fun meeting. This year it will be at Merlin’s Magic Dinner Theatre in Orange on Friday, the 9th at 7pm. Please join your friends and co-workers. Reservations are limited to the first 50 sign-ups. Please read more at our website www.laocsmta.org.

We have already scheduled our January meeting with March on its way (we are dark for February, because of the APEX show). If you know of any good speakers you would recommend for the 2006 calendar year, please let us know.

As always, if you have any suggestions that will assist or improve our chapter, please contact us at www.laocsmta.org.

What's In Your Future?

UPCOMING EVENT.... December 2005 Christmas Party At...

Merlin's Magic Dinner Theater



DATE

Friday, December 9th, 2005

AGENDA

7:00pm, Seating
7:30pm, Showtime / Dinner

COST

\$35, Members
\$40, Nonmembers
\$20, Member/Nonmember Children
Prices Includes: All You Can Guzzle Non-Alcoholic Beverages, Dessert, Tax, and Gratuity

Appetizers and full bar service are available in the showroom for additional fees. Double chicken, vegetarian and diabetic meals are available at no extra charge. Double rib meals are available for an additional \$3.00.

ADULT MENU

Homemade Soup of the Day
Barbecued Chicken and Babyback Ribs
Honey-baked Cornbread
Creamy Coleslaw
Barbecued Baked Beans

CHILD MENU

Homemade Soup of the Day
Golden-fried Chicken Strips with dipping sauce
Spice Island French Fries
Fresh Fruit

LOCATION

Merlin's Magic Dinner Theater
<http://www.merlinshow.com/>
Located at the
Rib Trader Restaurant
2710 East Chapman Avenue
Orange, CA. 92869
714.744.9288

Driving Directions

http://www.laocsmta.org/images/Merlin_Driving_Directions.pdf

FEATURING

A Night Of Wit And Wizardry At A Renaissance Feast!

Merlin's Magic Dinner Show at The Rib Trader Restaurant is a two-hour comedy and magic show. You are served a mouthwatering meal by the costumed characters from the show, while Merlin the Magician does everything from sleight of hand magic to grand illusion.

Imagine yourself at a feast hosted by a royal wizard. Saucy serving wenches bring you hearty food, tempting beverages, and their unique sense of humor.

Meanwhile, Merlin the Magician provides an evening of entertainment. From mind-boggling magic to outrageous comedy Merlin weaves his spell of laughter and wonder. Merlin's Magic Dinner Theater is Orange County's most unique dinner and show experience.

This is Family Friendly That the Entire Family Can Enjoy!

BRING THE KIDS...

and Please Join Us for a great time with Family, Friends, and Colleagues in Celebrating the Holidays.

RESERVATIONS

<http://www.laocsmta.org/reservation.php>

UPCOMING EVENT....

January 2005 Dinner & Presentation Meeting

U.S. Electronic Waste Recycling Laws & YOU What Everyone Should Know

PRESENTED BY:

John Upton
Technical Director
Ease-E-Waste

<http://www.ease-e-waste.com/>

DATE

Thursday, January 19th, 2006

AGENDA

6:00PM, Social Hour
7:00PM, Dinner/Presentation

COST

\$20, Members
\$25, Nonmembers

MENU

Roast of Round Beef

LOCATION

Embassy Suites
3100 East Frontera
Anaheim, CA

RESERVATIONS

<http://www.laocsmta.org/reservation.php>

November 2005 Meeting Review

Written By: Riki Brown

LAOCSMTA completed another very successful chapter training. Our main instructor was Harvey Stone from the Goodbye Chain. Harvey was a very good speaker and knew his subject well. At present the deadline for RoHS/Weee is July 2006 and affects around 25 European countries. Other countries will be implementing some form of RoHS including Switzerland, Australia, New Zealand, Hong Kong, Norway, Canada, Japan and China to name a few. Also Calif. is adopting it per SB50 and it will be phased in starting Jan 1, 2007. Basically it will cover any products sold or distributed in those countries. RoHS mandates restrictions of 6 toxic substances of which lead is one of them. At present there are some exemptions in effect until 2008. The main industries exempt are Medical and Military/government contracting mainly due to reliability issues with lead-free assemblies. No permanent exemptions will be granted so eventually even these industries will need to comply.

The issues of compliance are vastly more complicated than they first appear. Compliance is based on substance as a percentage of homogenous material, not the component itself. Boards for example can be made lead-free but the chemical used for flame retardant in the laminate may be one of the substances banned by RoHS but you are ultimately responsible for the board being in compliance not the board fabricator you bought it from. The same goes for electronic components. The Microprocessor you specify may be lead-free with regards to its lead frame that you attach to your lead-free board with lead-free solder but wire bonds inside may not be lead-free or other substances inside the chip may not be, and because of this your company can face tremendous financial risks if fined for non-compliance. The RoHS/Weee directive does not require any due diligence or records to be submitted to prove compliance; however, if you don't do due diligence you have no way to defend your company or if you are a subcontractor to defend yourself in case of a lawsuit, and because of this tremendous preparation must be done and data bases maintained. If you are a component engineer you will be in big demand as companies must complete detailed analysis of every component that is used in your product and document findings in a database. The IPC has developed a standard form for collecting data from your suppliers.

In the afternoon two other speakers were teleconferenced in from New York. Kenneth S. Rivlin and Jean-Philippe Brison from the Law offices of Allen & Overy. They discussed the EU approaches to compliance and the legalities in complying with RoHS directive. Under strict liability each company will need to analyze their risk and mitigate it accordingly. You can take two approaches. Do nothing to change your product. This of course has no costs but high risk you will get fined or worse. You can test everything and do due diligence. This eliminates the risk but has high costs. They discussed who is responsible and that it is the persons importing into the EU, those making a sale in the EU, and the supply chain that is under contract. They discussed how to do a due diligence system by obtaining certificates of compliance from all suppliers and keeping them for up to 4 years, and identify the person in the supply chain who is responsible for supplying erroneous information. The penalties and fines vary for different EU's and vary from a max fine of \$10K for some, and others can go above \$10,000, and a few have penalties that include criminal liability, product recall and other serious penalties. The lawyers were very knowledgeable and shared a lot of great information on compliance or not and its risks.

In the afternoon we also heard from Dr. Brian Toleno, from Henkel Corp. His topic was Implementing Lead-Free. Brian covered much of the technical part of lead-free including design of experiments. He covered paste printing, placement and re-flow soldering with lead-free and discussed the different solder alloys, their benefits and differences. He also talked about inspection differences between lead-free joints and 63/37 joints. He stressed the importance of training your operators and inspectors in lead-free. Brian has invited our chapter to the Henkel facility in Irvine for a hands on chapter meeting in lead-free soldering and assembly. Look for that meeting early next year.

RoHS/Weee is here to stay. It is political and marketing driven, and from an engineering & scientific perspective it makes absolutely no sense; however, it is not going away and we all in electronics assembly will be doing it eventually. Those that ignore it and don't make the change to lead-free will not be around long. Your competitors will be offering it if you don't. Over all this was an excellent chapter training and the chapter wants to thank Dr. Harvey Stone, Dr. Brian Toleno and Allen & Overy for their time and excellent presentations. The attendance was lower than it should have been as the information given in this training is vital to your success in the future.

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INVITATION TO START AN SMTA STUDENT CHAPTER

The SMTA is looking to start student chapters! The mission of SMTA student chapters is to build a network of students and professionals and to create learning opportunities for students to develop skills and knowledge necessary to work in electronic assembly technologies and related business operations.

A student chapter may be established at any post secondary school that supports surface mount technology, microelectronics, electronics packaging, or related industries via programs, courses, and/or activities. Only five student members are needed to start and maintain a student chapter. The student membership cost is \$5.00 per year. You can find the application for an Associate (Student) membership on-line at http://www.smta.org/membership/membership_step_1.cfm. Membership puts students in touch with the many SMTA publications and services. It also provides student discounts on conferences along with many opportunities for professional development.

The details of operating an SMTA student chapter are quite simple and spelled out in the "SMTA Student Chapter Guidelines and Bylaws".

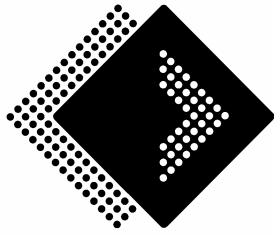
If you would like to start an SMTA student chapter at your school, please complete the "Student Chapter Start-up Application Form" that is attached.

Thanks for considering the formation of an SMTA student chapter at your school!

Sincerely,
Sis Sullivan
Student Chapter Coordinator
sis@smta.org

**TO FIND OUT MORE ABOUT FORMING
YOUR OWN STUDENT CHAPTER**

GOTO: <http://www.laocsmta.org/Students/index.html>



SMTA

Surface Mount Technology Association

STUDENT CHAPTER START-UP APPLICATION FORM

Application for academic year beginning _____ (Month/Year)

School Name _____

SCHOOL ACTIVITIES THAT SUPPORT RELATED INDUSTRIES

Please describe how your school supports the surface mount technology, microelectronics, electronics packaging, or related industries, in terms of school programs, courses and or activities offered.

FACULTY ADVISOR

Name and contact information of the **SMTA member** to serve as faculty advisor:
(Advisor must be an SMTA member)

Faculty Advisor Name: _____

Preferred Address: _____

Business Phone: _____ Business Fax: _____

Business Email: _____ Member Number: _____

STUDENT MEMBERS

Five **SMTA student members** are required to start and maintain an SMTA student chapter. Please list five students that are currently SMTA members at your school.

Student 1 Name: _____ Member Number: _____

Student 2 Name: _____ Member Number: _____

Student 3 Name: _____ Member Number: _____

Student 4 Name: _____ Member Number: _____

Student 5 Name: _____ Member Number: _____

Please mail, fax, or email this form to:

SMTA Headquarters
5200 Willson Road
Suite 215
Edina, MN 55424
Fax 952.926.1819
e-mail: sis@smta.org
www.smta.org

All Student Chapter info (including this form) is available at : <http://www.laocsmta.org/Students/index.html>

If you have any questions please...just give us at 952-920-7682



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- Chapter News
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Submission Guidelines

Acceptable Artwork Formats: .pdf, .jpg, .bmp, .gif, .tif, html, & Camera Ready Artwork. Laser Printed Pages will not be accepted.

Acceptable Font Style: Graphic, MSWord, or html.

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Schedule

Ads should be submitted at least one week prior to the end of the month proceeding the first month of desired publication.

Vendor Tables

Display your products and literature at a Chapter Meeting for a fee of \$100, and receive a bonus of one free 1/4 page AD for one month.

Contact

Scott Penin

Call: (714) 403-1874 / E-Mail: info@paradigmmanufacturing.com

Volunteer Planning Committee Members Join Our...

"Habitat for Leadership Development"

Do you enjoy working on teams and relating to others? Are you able to speak clearly and delegate to others? Are you good at collecting and analyzing data, problem solving, & planning? Do you desire to be a leader? If you can answer "YES" to some of these questions, then perhaps you would like to volunteer some of your skills for one of our many Planning Committees.

A Planning Committee member will typically donate just an hour/month performing various planning activities. The activities could range from researching various meeting locations, costs, supplies, and speakers needed, to providing incentive/survey methods and input/feedback on newsletter, website, and/or meeting content.

Many committees are available to choose from, such as the *Christmas Party Committee, Tour Meeting Committee, Chapter Training Program Committee, Golf Tournament Committee, Attendance Committee, Membership Committee, Student Chapter Committee, New Membership Committee, Fund Raising Committee, Technical Speaker Committee, and Newsletter & Website Committee.*

This is an excellent opportunity to receive free leadership skill building, improve your contacts within the industry, provide support for a mission you care about, and most of all demonstrate to your friends and colleagues that you have what it takes to be a leader.

So come on out and join one of our Volunteer Planning Committees and be a part of our ***"Habitat for Leadership Development"***!

Remember....Life is Change...Growth is Optional...Choose Wisely!

For More Information E-mail Michelle Ogihara at michelle-o@jp.seika.com

OR

Contact by Phone at 310.540.7310