“Avoiding the Void: Using “Freeze Frame” Reflow techniques to help identify root cause voiding effects for bottom terminated packages.”

Friday, Oct 6th, 2017

ABSTRACT:
This presentation will share innovative real time x-ray reflow videos that have culminated into the “Freeze Frame” reflow technique. This methodology will help process engineers identify voiding root causes and other SMT defects. In addition to sharing case studies using “Freeze Frame” reflow technique, a variety of real time x-ray videos will be shared showing various voiding effects from board design, solder paste selection, and also the implementation of vacuum during reflow.

MEETING LOCATION
Aboca’s Italian Grill,
100 S Central Expy #63,
Richardson, TX 75080

11:00 am (doors open for networking) Lunch buffet with multiple entrees, salad and dessert.

To attend, we ask that you RSVP by replying by COB Oct 4th to this e-mail GTanel@Libraind.com

Agenda
11:00-11:30 check-in & Networking
11:30 Lunch Begins
11:45 Meeting Begins, Introductions
   Chapter Announcements
   12:00 Technical Presentation by the
   Speaker: Donald Banks
1:00 Technical Round Table Conversation

Pricing: (CREDIT CARDS NOW ACCEPTED on Website)
$ 20 cash/check, Or CCard charge (in advance on website) for: Members, Guests of Members
$25 for Visitors & non-members
$25 for Credit card charges AT THE DOOR
Bio-

Steven Kummerl-member of technical staff at Texas Instruments supporting semiconductor packaging R&D.

Steven Kummerl received his B.S. degree in Mechanical Engineering from University of Texas El Paso in 1995. He is a member of technical staff at Texas Instruments supporting semiconductor packaging R&D. He has worked in the field of high volume/high mix surface mount assemblies for more than 13 years and over 10 years at TI supporting packaging R&D. In his most current role Steven has designed numerous complex 3D packages, researched materials for robust second level reliability performance, and contributed in the creation of the System in Package and Sensor Technology roadmaps for TI. He holds over sixteen patents in the field of package design and has authored multiple publications which have been accepted into the Journal of SMTA, IEEE CMPT 2011 Characterization and modeling best paper of the year, and special invited guest speaker for the 2017 International Microelectronics and Packaging Society’s “System in Package” conference.

Upcoming Chapter meetings

Chapter Calendar for 2017:

Sept. 17 - 21, 2017
SMTA International
Rosemont, IL

Oct 6th - 2017
TI Packaging Guru,
Steve Kummerl

Nov 14th - 2017
GeekAPalooza

Dec. 1st 2017
member Christmas party
Presidents Message

Greetings to SMTA Dallas Chapter members and guests.

We have got a fantastic second half of 2017 planned out and I believe you will be impressed with the on-going quality, just as we have had in Dallas for a long time. I personally urge every member to try to attend the big annual event in Chicago in September if at all possible. It is our association’s International Exhibition. I have personally never missed this event in 23 years. The technical presentations are wonderful, the exhibition floor always as a lot of new technology equipment, and the member meetings are the best place to grow deep relationships to learn about our great association. I hope to see you there!

Gary Tanel, Dallas Chapter President.

Dallas Chapter Membership Rolls—107 Members!!

We welcome our newest members to the SMTA family:

Robert Steffen of Leemah Electronics

Corporate Members: 17  Corporate Participating members: 14
Individual Members: 49
Global Members: 4, Participating Members: 12,
Associate/Student Members: 9 Lifetime members: 2

Dallas Chapter Corporate Member List - July 2017

ASSET InterTech  GSC (Garland Service Company)  Roper Resources, Inc.
Barry Sales, Inc.  JTAG Technologies  Southwest Systems Technology Inc.
BBM, Inc.  Keysight Technologies  SPEA America
Circuitronics  Krypton Solutions  Summit Interconnect
Conesco LLC  Lockheed Martin Missiles & Fire Control  .Sunshine Global PCB Group
CVInc.  Libra Industries  SVTronics, Inc.
CR Assembly Corp  Mek Americas LLC  The IPS Group, LLC
DG Marketing Corporation  Morgan Newton Company  Techni-Tool, Inc.-
Dragon Circuits  National Circuit Assembly  .Trilogy Circuits, Inc.
E.T.S. Group, Inc.  NPI Technologies, Inc.  Variosystems, Inc.
Electrolab Inc.  One Source Group  VI Technology
EWD Solutions  PAC Global, Inc.
FHP Reps  Philips Entertainment
Fujitsu Network Communication  Precision Technology, Inc.
Go check out the SMTAI event in Chicago in September 17-21

You won’t want to miss out on this event.

**SMTA International 2017**

Conference: September 17-21, 2017
Exhibition: September 19-20, 2017
Donald Stephens Convention Center
Rosemont, IL
Inconsistencies between prototype and production type board shops

How many times have you had a part go from Prototype to production only to get a whole lot of "door stops"? Inconsistencies between prototype and production type board shops are only the beginning. There are variances between prototype shops themselves and even shops under the same Company name have Inconsistencies between their own shops that can occur due to anything from press parameters to environmental issues. And Whereas I have always been a fan of “the more information the better”, Sometimes too much information can cripple an expedite through a Fab shop. An example of this is noting critical parameters of the job to a specific value when there is so much variation between Fabricators (both proto and production) that a compromise must be proposed. Let me give you an example of this, Let’s use fr-406 for the purpose of this example. Typically, electrical properties pages describe a specific value for Dk based upon test method and the frequency at which the device will run. In the case of fr-406, anywhere between 4.2 and 4.9. (Higher frequencies have the lower Dk’s) Now the Customers engineer models/simulates Impedances based upon these numbers. (Let’s says for this example they choose 4.5 Dk) The job then goes through its normal release process, mechanical people are involved and the job is released for prototype fabrication.

Herein lays the first hitch. fabricators tend to try to minimize costs, In order to do so a fabricator may choose to build as a foil cap type construction to minimize cost (less material is used, and more pre-preg or B-stage is used, which is cheaper than core), what does this mean to you the customer who has modeled Impedances using Material literature based upon cured core values? It means for example in a Micro strip type application that the interface material between the Intended Impedance controlled trace and its ref plane is now pre-preg. The smaller the trace geometries for the microstrip the thinner the distance needs to be to the ref plane, In a Fabrication environment attempting to save costs this means very resin rich pre preg’s, In some cases like in the case of 106 the Dk can be as low as 3.3, If the Customer has modeled at 4.5, this mis-match in Dk's results in this case in having to increase the trace size, sometimes to the point of where there is not enough air gap (space) left after re-sizing for impedance and this is where the compromise comes in. Many times, if Air-gap/space is available the lines can be increased or decreased to accommodate the Impedances. Having said that, a fabricator should really try to err towards altering dielectric distance whenever possible before altering any Impedance /Signal Integrity lines at the Fabrication level, as not much is known about specific performance characteristics of a given signal and we certainly would NOT want to decrease current carrying capacity to accommodate Impedances unless the End User has approved. The bottom line for this Column today is to consult your Fabricator at the earliest possible time in the process to get specific Effective Dk's of each critical sub section Prior to laying out traces, If Multiple vendors may be used for board fabrication, get a sampling of models from a few of them using the same material and compare the pre preg -dielectric values and Dk’s used in each case averaging between them, In this way the Customer has built in 10% deviation allowance and the part can transcend to production environments easier and with less compromises....

Karl Doebbert
Prototron Circuits
Special Thanks to the following volunteers!!

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REASONS TO JOIN YOUR LOCAL SMTA CHAPTER

- Do you have something to share such as new technologies or new products?
- Are you new in a sales territory – do you know all the players? Do they know you?

Be informed and involved on the Local Chapter level:

- Take advantage of technical information provided at local meetings Get to know colleagues in your local area
- Network for technical information and get to know companies and people in your local area
- Share information with colleagues on new products and services

THE MISSION OF SMTA

The Surface Mount Technology Association (SMTA) membership is a network of professionals who build skills, share practical experience and develop solutions in electronic assembly technologies and related business operations.

MEMBERSHIP DUES

Participating: $50 - If your company (same location/division) holds a Corporate Membership, it's employees are eligible to receive the full range of benefits at a discounted price.

Individual: $75 - This membership is designed for individuals who wish to join SMTA to receive all the benefits independent of a Corporate Membership.

Corporate: $450 - A corporate membership in SMTA provides discounts to employees located in the same location/division where the Corporate Membership is held.

Student Membership—$20 The Student/Retiree Membership is available to all full-time post-secondary students and retirees.

HOW TO JOIN

On-line at www.smta.org