CARTS 2003 PROGRAM

Tuesday, April 1

Welcome and Awards 8:45 – 9:00 AM

Keynote: *The NEMI Roadmap: Integrated Passives Technology and Economics;*
Joseph Dougherty, Penn State University; John Galvagni, AVX Corp.;
Larry Marcanti, Rob Sheffield, Nortel Networks; Peter Sandhorn,
University of Maryland; Richard Ulrich, University of Arkansas

Session 1: Niobium Capacitors 9:30 - 12:00 Noon

Chairman: Dave Richardson, Vishay Sprague

1.1 New Niobium Based Materials for Solid Electrolytic Capacitors;
C. Schnitter, U. Merker, A. Michaelis, H.C. Starck

1.2 The Effects of Thermal Treatment on the Dielectric Properties of Anodic Oxide Films on Tantalum and Niobium: A. Oxygen Migration;
T. Tripp, Consultant

1.3 The Effects of Thermal Treatment on the Dielectric Properties of Anodic Oxide Films on Tantalum and Niobium: B. Crystallization;
Y. Pozdeev-Freeman, Vishay Sprague

1.4 Voltage Derating Rules for Solid Tantalum and Niobium Capacitors;
T. Zednicek, AVX Czech Rep.; J. Gill, AVX Ltd., UK; C. Reynolds, AVX Corp.

1.5 DC Bias Voltage Dependence of the Capacitance of Anodized Niobium;
M. Stenzel, H. Zillgen, EPCOS AG, Germany;
K. Kovacs, G. Kiss, Budapest University, Hungary

1.6 Comparison of Niobium and Niobium Oxide Solid Electrolyte Capacitors;
Y. Pozdeev-Freeman, D. Johnson, D. Wadler, Vishay Sprague

1.7 Breakdown Characteristics and Low Frequency Noise of Niobium Based Capacitors;
T. Zednicek, J. Pelcak, B. Vrana, Z. Sita, S. Zednicek, AVX Czech Rep.;
J. Sikula, R. Vrba, L. Grmela, Brno University; P. Hoeschl, Charles University, Czech Rep.;
W. Millman, C. McCracken, AVX Ltd., UK; C. Reynolds, AVX Corp.

Session 2: Testing Practices & Results 2:00 – 5:15 Noon

Chairman: Dr. Gary Ewell, The Aerospace Corp.

2.1 Dissipation Factor Testing is Inadequate for Medical Implant EMI Filters and Other High Frequency MLC Capacitor Applications;
B. Stevenson, Wilson Greatbatch Technologies Inc.

2.2 Life Test Results and Evaluation of Resistor-to-Resistor Isolation for Commercial Resistor Network Chips for High-Reliability Applications;
E. Nhan, R. Hardesty, J. Fogle, Johns Hopkins University, Applied Physics Lab

2.3 Insulation Resistance Testing of High-Capacitance BME Multilayer Ceramic Capacitors;
R. Anklekar, J. Fish, J. Christofferson, V. Cooke, Electro Scientific Industries

2.4 Effect of Moisture on Characteristics of Surface Mount Solid Tantalum Capacitors;
A. Teverovsky, QSS Group Inc.
Exhibits & Reception

Wednesday, April 2

Session 3: Reliability Assessment
Chairman: Prof. Robert Stevenson, Wilson Greatbatch Technologies Inc.

3.1 Failures in Base Metal Electrode (BME) Capacitors,
D. Donahoe, C. Hillman, M. Pecht, CALCE EPSC, University of Maryland

3.2 Lifetime Modeling of Sub 2 Micron Dielectric Thickness BME MLCC;
M. Randall, A. Gurav, D. Skamser, J. Beeson, Kemet Electronics

3.3 New Wearout Mechanism Found in Surface Mount Solid Tantalum Capacitors;
R. Dobson, Raytheon Network Centric Systems

3.4 Pure Tin: Differentiated View on the Risk of Whisker Formation;
W. Blum, R. Kullmann, R. Kuhl, G. Wegner, BCcomponents BEYSCHLAG, Germany

3.5 Design Guidelines for Preventing Flex Cracking Failures in Ceramic Capacitors;
N. Blattau, D. Barker, C. Hillman, CALCE Electronic Products, Unv. of Maryland

Session 4: New Technology
Chairman: Dr. Gordon Dayton, ATC Corp.

4.1 Silver Paints for the Production of Low ESR Polymer Dielectric Based Tantalum Capacitors;
I. Everest, T. Whiting, Johnson Matthey, UK

4.2 Beyond Standard MKP Capacitors – Development of Special Metallized Polypropylene
Film Capacitors for Resonant Applications in Lighting Industry;
D. Olalla, EPCOS Electronics, Spain; S. Chandran, EPCOS Inc.

4.3 High Temperature Polymer Capacitors;
M. Carter, J. Hollborn, Dearborn Electronics;
E. Maercrklein, S. Kogler, Brady Worldwide Inc.

4.4 A New Way to Realize Non-Linear Capacitors in Current CMOS Technology;
S. Goyal, Univ. of Washington, P. Jain, Indian Institute of Technology, India

4.5 New High Frequency Integrated Silicon Capacitor Solves User’s Assembly Problems
While Extending High Q and SRF Beyond 10 Gigahertz;
H. Goldberger, Vishay Intertechnology; T. Troianello, Vishay Intertechnology Inc.

4.6 Production Plating of Chip Capacitors;
G. Federman, G. Hradil, Technic Inc.; Y. Zhang, Johanson Dielectrics
Session 5:  Design & Construction  
Chairman:  John Prymak, Kemet Electronics  
3:20 - 5:45 PM  

5.1 How Low Can You Go – Tantalum Polymer Capacitors with ESR under 7 Milliohms;  
   E. Reed, J. Marshall, R. Hahn, Kemet Electronics  
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5.2 Miniaturization Friendly Tantalum Capacitor Technology;  
   D. Huntington, T. Zednicek, C. Reynolds, AVX Ltd. UK  
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5.3 The Production of High-Voltage Amorphous Aluminum Oxide Films in Organic  
   Solutions of Phosphate;  
   B. Melody, T. Kinard, A. Harrington, D. Wheeler, D. Stenzinger, Kemet Electronics  
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   P. Young, DuPont Teijin Films  
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   T-H. Song, C. Randall, Pennsylvania State University  
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Thursday, March 28  

Session 6:  Applications  
Chairman:  Doug Edson, AVX Tantalum  
8:30 – 12:00 Noon  

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   J. Norton, C. Anderson, Medtronic Inc.  
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6.2 Derating Differences in Tantalum – MnO2 vs. Tantalum – Polymer vs. Aluminum-Polymer;  
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6.3 Modeling Frequency-Dependant Behavior in Stacked-Plate Aluminum Electrolytic Capacitors;  
   M. Viste, K. Bachofer, P. Krause, Medtronic Inc.  
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   Power Capacitor Chips;  
   H. Vetter, EPCOS AG, Germany  
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   R. Baron, R. Brooks, V. DeMarquis, J. Harris Jr., Sandia National Labs  
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   M. Horgan, Magnetics Div. of Spang & Co.  
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   V. DeMarquis, R. Brooks, J. Harris Jr., Sandia National Labs  
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Session 7:  Materials & Processes  
Chairman:  Jim Harris, Sandia National Labs  
1:30 – 4:30 PM  

7.1 100% Silver Electrode Powders for High Performance, Low Cost MLCCs;  
   G. Berube, M. Challingsworth, M. Chambergo, E. Davis, Ferro Electronic Materials  
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   F. Shojaei, H. Park, A. Mehta, P. Hynek, L. Renny, INCO Technical Services, Canada——-334
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