

P2.1 Ceramic Capacitors

Wednesday September 26, 2007: Holiday Inn, Riverwalk – San Antonio, TX

Scope of the P-2.1 Subcommittee on Ceramic Dielectric Capacitors (approved 09/26/07): All types of non-polarized ceramic dielectric capacitors.

Chair Michael Cannon called meeting to order at 12:11 pm.

Attendees:

Mary Carter Berrios	KEMET
Joe Biernacki	Stackpole Electronics
Michael Cannon	TDK
Michael Lauri	IBM
Mihee Lee	Samsung
Carl Lindquist	SAN-O Industrial Corp.
Laird Macomber	Cornell Dubilier Electronics
Jim Matsui*	Murata Electronics
Ed Mikoski	EIA/ECA
Larry Mosley	Intel
Ian Murdock	American Technical Ceramics
Dave Richardson	Vishay
Jayson Young	KEMET

Member Organizations Present *member not used in quorum calculation	<u>Present at this meeting</u>	<u>Present at previous meeting?</u>	<u>Present at meeting prior to previous?</u>
AEM*	N	N	N
American Technical Ceramics	Y	Y	Y
AVX	N	Y	N
Cornell Dubilier	Y	Y	Y
IBM	Y	Y	Y
Intel	Y	Y	Y
KEMET	Y	Y	Y
KOA Speer	N	Y	Y
Murata*	Y	N	N
Presidio Components	N	Y	N
Samsung Electro-Mechanics	Y	Y	Y
SAN-O Industrial Corp.	Y	Y	Y
Taiyo-Yuden*	N	N	N
TDK	Y	Y	Y
Vishay	Y	Y	Y
Wright Capacitors	N	Y	Y
Yageo	N	Y	Y

Other Organizations Present

EIA/ECA

1.0 Introductions

1.1 Circulate Membership Roster

Self introductions were made and attendance was taken. A quorum of nine of the fourteen member organizations (for purposes of quorum) was present.

1.2 Approval of Spring 2007 Minutes from San Diego, CA.

The minutes were unanimously approved.

1.3 Approval of Agenda for Present Meeting

The agenda was unanimously approved.

1.4 Correspondence and Review of Committee Scope

The detail of the P2.1 scope was discussed and refined to be more accurate. Since the functional dielectric in electrolytics is also ceramic, the committee brought forth a motion to change the scope to include a “non-polarized” identifier. The motion carried and new scope is reflected in these minutes.

1.5 Report of Task Groups and Committees

1.5.1 DSCC, Defense Supply

There was no update from DSCC.

1.5.2 Automated Component Handling (ACH)

No report from ACH to P2.1.

1.5.3 S-1 Steering Committee

General session was held Tues., September 25th at 8am. There were three presentations: 1) Ralph Justus of ECA gave an update on EIA/ECA environmental activities; 2) Mary Carter-Berrios (Kemet) presented on China RoHS and REACH; 3) Carter-Berrios was joined by Dave Richardson (Vishay) to present the Automotive Electronics Council (AEC) testing on tantalum capacitors. Committee chair Michael Lauri (IBM) reported.

1.5.4 Soldering Technology Committee (STC)

Meeting was held on Tues., September 25th at 1:30pm. Main topics are the publishing of J-STD-002C Solderability standard, replacement of steam aging testing, and gauge R&R testing for wetting balance evaluation.

1.5.5 Ceramic Working Group

Meeting was held on Mon., September 24th at 9am.

Topics: PTH and SMD product reviews; EIA 595/521; high frequency characterization test method.

2.0 Old business

2.1 Status of EIA-595-A (PN-5094) Visual & Mechanical Inspection

Members voted unanimously to put this document out for 60-day ANSI ballot. Work has been completed under PN 5094.

2.2 Status of EIA-198-F “Ceramic Dielectric Capacitors Classes I, II, III, & IV”

2.2.1 Part III – standard two-terminal SMD (PN 5099)

Draft-in-progress work of EIA 198 III/3 will be posted on the ECA Message Board for comments.

2.2.2 Part III – Pin-through-hole (PTH) focus area

2.2.2.1 Combination of radial conformal and radial molded is under /4 as PN5153. TDK will review the Japan offerings and add size designations, if needed.

2.2.2.2 Combination of axial conformal and axial molded is under /6 as PN5154. It is being finalized and will be ready for conversion and SP ballot for ANSI.

2.2.2.3 High voltage /9 work includes adding sizes from MIL SPEC. Dimension tolerances will need to be reconciled. This applies to both PTH and SMD constructions.

2.3 Status of ANSI/EIA 521 (PN 5095) Application Guide for MLCCs

Graphics in this standard need updating (e.g. DC bias characteristic curves, high CV dielectrics, document listing). The latest revision will be posted on the ECA Message board for comments.

2.4 Status of PN 4563- Test procedure for high frequency characterization of low inductance multilayer ceramic chip capacitors.

Decision to send this document out on a 45-day EIA ballot. Voting pool was previously established Spring 2007.

3.0 New Business

3.1 Active members listing review

ECA will provide the member roster for P2.1 subcommittee review and updating. The committee discussed and marked roster accordingly.

3.2 Consumer Electronics Specification

Larry Mosley (Intel) discussed the work that JEITA is doing and the motivation behind it. High temperature performance of high CV dielectrics is limited by needing to meet the low temperature requirements of -55° or even -25°C. Work being done at the 30-member Center for Dielectric Studies at Penn State involves “*what is after BaTiO₃?*” Developments are focused on TCs that peak at higher temperatures (e.g. 60°C) and are referenced at a temperature closer to actual operating conditions. Mosley is soliciting Industry-wide response at IEC and EIA.

3.5 Documents review

3.5.1 Several P-2.1 documents are older than 5 years. All of the working group attendees are invited to participate in the review process.

3.5.2 The active projects document file posted on the ECA website is outdated and inaccurate. This file will be compared to the list of PNs that Cannon (TDK) is to send to Justus (ECA).

4 Time and Place of Next Meetings

4.1 Spring 2008- Louisville, KY, Brown Hotel, March 31-April 3, 2008.
Fall 2008- Park City, UT with Saratoga, NY being the alternate site.

5.0 Adjournment

Motion made, seconded, and unanimously voted to adjourn at 1:21 PM

This meeting was conducted in accordance with the EIA Legal Guidelines and the Manual of Organization and Procedures.

Michael C. Cannon
Crandall

Casey

Michael C. Cannon
Chairman

Casey Crandall
Vice-Chairman