

Minutes of P-2.1 Committee on Ceramic Dielectric Capacitors

Wednesday, May 18, 2005 Chateau Sonesta Hotel New Orleans, LA

Scope of the P-2.1 Committee on Ceramic Dielectric Capacitors (approved 10/13/99):

All types of Ceramic Dielectric Capacitors.

Attendees:

NAME		COMPANY
John	Borzych	Taiyo Yuden
Dave	Ritchey	Yageo /Phycomp
Michael	Cannon	TDK Corporation
Terry	Charles	Panasonic
Michael	Griffith	KOA Speer
Frank	Hayward	American Technical Ceramics
Leigh	Wojewoda	INTEL
Mike	Lauri	IBM
Lucy	Lee	Kemet
Laird	Macomber	Cornell Dubilier
Karun	Malhotra	Murata Electronics, NA
Len	Metzger	Panasonic
Christine	Pollock	Presidio Components
Chris	Reynolds	AVX
Dave	Ritchey	Yageo
Robert	Galli	Panasonic
Jason	Young	Kemet
Carl	Linguist	SAN-O
Mary	Berrios	Kemet

Chairman Michael Cannon called the meeting to order at 12:05pm.

1.0 Introductions

1.1 Circulate Membership Roster

Self-introductions were made and attendance was taken. A quorum was present.

1.2 Approval of Fall Meeting Minutes from San Diego, CA.

The minutes were unanimously approved.

1.3 Review of Agenda for Present Meeting

The agenda was unanimously approved with correction to topic 1.2 to reflect "Fall" instead of "Spring". Intel requested would like to add two issues to the new business agenda, namely, a discussion on component characteristics at various operation conditions and the EIA-481 taping specifications.

1.4 Correspondence & Review of Committee's Scope

No correspondence was received.

1.5 Report of task groups, committees, and DSCC efforts

1. DSCC

No Reports

2. ACH

Per Dave Ritchey, the ACH committee is still working on tray specification. The new revision of the document addresses larger size components. The P-2.1 committee agreed to issue some type of engineering bulletin should be given to the ACH committee concerning components.

3. S-1 (formerly U-1)

Mike Lauri reported that the S-1 committee will work with all committee to address such issues as:

- 1) Updating of the Tin Whisker bulletin to be inclusive of other passive components.
- 2) Karun Malhotra will draft a new bulletin that will discuss whisker length.
- 3) A new bulletin will be drafted to address counterfeit components.

4. STC

Per Mike Lauri, the J Std 007 is being revised and various test were completed. The goal is to get this specification out for comments by the 2nd week in June and out for ballot by August. Goal is to get spec for comment by 2nd week in June and send out for ballot by August. One concern is the data on steam aging should be removed.

Per Karun Malhotra, the final test parameters are 2% flux, alloyed, 255C max.

2.0 Old Business

2.1 Status of balloting latest revision of EIA-595-A (SP-4622)

Based on the last ballot, all comments were address, but there is some misconception by the person who submitted the negative comment. As a means of rectifying the issue, Ed Mikoski suggested we obtain a new PN and reissue the document for ballot. The chairman obtained new **PN 5094** for the document titled "Visual & Mechanical Inspection" which will be release for ballot.

Mike Lauri suggested that we utilized the list of voting members based on attendance at this Spring 2005 P-2.1 session. Mike Cannon suggested that we limit to the voting list based on the attendees which will be outlined in the minutes as shown below:

Voting Members list:

John	Borzych	Taiyo Yuden
Dave	Ritchey	Yageo /Phycomp
Michael	Cannon	TDK Corporation
Terry	Charles	Panasonic
Michael	Griffith	KOA Speer
Frank	Hayward	American Technical Ceramics
Leigh	Wojewoda	INTEL
Mike	Lauri	IBM

Lucy	Lee	Kemet
Laird	Macomber	Cornell Dubilier
Karun	Malhotra	Murata Electronics, NA
Len	Metzger	Panasonic
Christine	Pollock	Presidio Components
Chris	Reynolds	AVX
Dave	Ritchey	Yageo
Robert	Galli	Panasonic
Jason	Young	Kemet alternate
Mary	Berrios	Kemet alternate
Dave	Richardson	Vishay

The PN 5094 will be re-issued with corrections. Mike Lauri made a motion that we resend the document out for ballot. It was second by Mike Griffith. It was unanimously agreed.

Another motion was made by Mike Lauri that we limit the voting of PN 5094 to the participating members of this Spring 2005 P-2.1 session as listed above. It was second by Dave Ritchey. It was unanimously agreed.

EIA will utilize the listing above when submitting the PN 5094 out to ballot.

2.2 Status of EIA-469-D (PN-4621) SP ballot

This document is currently out for ballot with voting period to expire on June 27, 2005. Mike Cannon will follow up with email to all voting member at the beginning of June.

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

Mike Cannon presented some topics we discussed during the working group meeting with regards to EIA 198 Section III/x.(See insert below of slide from Mike presentation 8. EIA Section III/x). The P-2.1 committee will work on these various issue for our next meeting.

P-2.1 Working Group 5/16/2005 Meeting

- 8. EIA 198 Section III/x
 - ◆ /1: ceramic leaded disc 50V/500V
 - ◆ /2: ceramic tubular 500V
 - ◆ /3: ceramic unleaded chip 6.3~100V
 - ◆ /4: radial leaded conform coated 25~200V
 - ◆ /5: radial leaded molded 25~200V
 - ◆ /6: axial leaded conform coated 25~200V
 - ◆ /7: axial leaded glass encapsulated 25~200V
 - ◆ /8: ceramic two-pin dual-in-line encapsulated 50V
 - ◆ /9: ceramic radial-leaded/SMD high voltage

There are some additional items added to the slides as describe below:

Add /10 for reverse geometry slash sheet.

Add /11 multi terminal type devices.

It was suggested we break apart the /9 radial leaded and SMD type for high voltage.

Christine Pollock and Lucy Lee will obtain a PN for /9 to work on radial type only.

Karun Malhotra will obtain a PN for /9 SMD type only.

Mike Cannon will obtain a PN for the /3 ceramic un-leaded chip 6.3~100V.

2.3.1 Part II-Test Methods

2.3.2 Part III- Individual Specs.

2.3.2.1 Status of SMD High Voltage

2.3.2.2 Status of Leaded High Voltage

2.3.2.3 Status of Reverse Geometry Low Inductance

2.4 Status of IEC/EIA 521

Mike Cannon is not sure why we have IEC in front of the EIA. We should check to see if IEC has an application guide.

A PN 5095 was obtained for the “Application Guide for Multilayer Ceramic Capacitors – Electrical” to send out for ballot. Travis Ashburn did some work in the past, but it was unsure if he added the Vcc curves to the document. Lucy Lee will discuss with Travis and obtain an update.

2.5 Status of ESL Capacitor test method

2.5.1 Update on JEITA activities

Mike Cannon and Terry Charles are coordinating to get Sanyo to provide an update at the Fall 2005 engineering meeting. Sanyo efforts are focus on Power; however, the P-2.1 committee is interested primarily in the high frequency area.

Leigh Wojewoda has performs some editing on the low ESL document (PN 4563), but it is not completed.

2.6 Report from Ceramic Capacitor Working Group (meeting 05/16/05, 10am-2pm)

- 1) EIA-469 discussion regarding balloting procedure and 6/27/05 due date.
- 2) Conference call on regular basis, quarterly, for open issues.
- 3) New PN for Visual and Mechanical inspection (EIA 595).
- 4) New bulk package within JEITA with dimensions added to EIA 198 III/3.

2.6.1 Low voltage component bulletin

2.6.2 IEC comparison to EIA’s historical approach

2.7 Status on Electro-static Discharge (ESD) teleconference

Carl Linquist suggested we contact Richard Odenberg (rodenberg@transtector.com) IEEE/ SPDC(Surge Protective Devices Committee) who will handle ESD specification/issues.

2.8 Active projects document file tracking method.

3.0 New Business

3.1 Joint standard bulk packaging presentation.

John Borzych made a presentation on a bulk feeder developed by Taiyo Yuden. The merit of bulk feeder is to reduce the cost. The purpose is to generation a slash sheet and/or specification. This will be presented to JEITA this month. John will provide a modified presentation to the committee to post on ECA website with our minutes.

3.2 Working Group status report and proposed agenda items for next meeting.

Mike Cannon suggested if there are no items at this time; feel free to email him any suggestions/concerns that should be address prior to next meeting.

3.3 Growth of participation from user community.

The P-2.1 committee is soliciting inputs/recommendations on how to motivate others users/vendors to attend ECA meetings.

3.4 Correct sub-committee name on all correspondence.

Mike Cannon is working with ECA to update the correct information.

3.5 Other

Intel requested a discussion to address temperature characteristics at various operating conditions and the EIA 481 taping specification.

1) Intel comments are the concern about capacitance at various conditions (ie. DC/ AC voltages, Temperature, and Frequency). Intel will make a presentation at the Fall meeting on current test methods and measurement procedures. Mike Cannon will discuss with Chris Reynolds and Dave Ritchey concerning the discrepancies between the Yageo/AVX/TDK.

A conference call with the committee members is tentatively scheduled for the 1st week in August.

4.0 Time and Place of next meeting

The next meeting will be held the week of 17-20 October 2005 at the Radisson Inn, Memphis, TN.

5.0 Adjournment

The meeting was adjourned at approximately at 1:50pm.

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

Michael C. Cannon

Michael Cannon
Chairman

Terry D. Charles
Acting Secretary