

## **Minutes of P-2.1 Committee on Ceramic Dielectric Capacitors**

Wednesday, October 19, 2005 Doubletree Hotel Memphis Downtown Memphis, TN

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

### **Attendees:**

<b>NAME</b>		<b>COMPANY</b>
Mary	Berrios	Kemet
Michael	Cannon	TDK Corporation
Terry	Charles	Panasonic
Casey	Crandall	Wright Capacitors, Inc.
Michael	Griffith	KOA Speer
Mike	Lauri	IBM
Carl	Lindquist	SAN-O
Laird	Macomber	Cornell Dubilier
Karun	Malhotra	Murata Electronics, NA
Len	Metzger	Panasonic
Ian	Murdock	ATC
Christine	Pollock	Presidio Components
Chris	Reynolds	AVX
Dave	Richardson	Vishay
Dave	Ritchey	Vishay
Jayson	Young	Kemet

Chairman Michael Cannon called the meeting to order at 12:20pm.

### **P-2.1 Ceramic Capacitor Sub-committee**

#### **1.0 Introductions**

#### **2.0 Committee Organization and Procedures**

##### **2.1 Circulate Membership Roster**

Self introduction was made and attendance taken. We have a quorum.

##### **2.2 Approval of Agenda**

The agenda was unanimously approved with corrections. Topic 3.5 was removed from the agenda.

##### **2.3 Approval of May 2005 Meeting Minutes**

The minutes were unanimously approved with necessary corrections (names, Jayson Young and Carl Lindquist).

## 2.4 Correspondence

There was no correspondence.

## 2.5 Report of task groups, committees, and DSCC efforts

The P2.1 Working Group met on October 17 to discuss the following:

- 1) EIA-469-D ANSI ballot update
  - a. 60 day ballot ended June 27, 2005
  - b. 2 negative ballots
    - i. Kemet issues: resolved and implemented
    - ii. Wright Cap issues: resolved with no changes needed
  - c. Vote in P2.1 meeting to publish Rev. D
- 2) Quarterly conference calls
  - a. The proposal for conference call on open issues between Engineering Summits was accepted
- 3) ACH committee issues
  - a. EIA 481 (taping spec) component orientation for Reverse Geometry low ESL MLCC's. This issue was tabled giving manufacturers time to review and formalize corporate response, including IEC/JEITA feedback.
- 4) EIA 198 documents review
  - a. Section I, Rev F to Rev G
    - i. Life test area of 3.2.13
      1. This was tabled until Section III is updated.
  - b. Section II, Rev E to Rev F
    - i. SP-4946 has been assigned
      1. This was tabled until Section III is updated.
- 5) EIA 198 Section III/x PTH products, review
  - a. /1: Leaded disc 50V/500V
  - b. /2: Tubular 500V, **RESCIND**
  - c. /4, /5: Radial leaded molded / conformal 25~200V
  - d. /6: Axial leaded molded / conformal 25~200V
  - e. /7: Axial leaded glass encapsulated 25~200V
  - f. /8: Two-pin dual-in-line encapsulated 50V
  - g. /9: Radial-leaded high voltage
  - h. /3: Standard MLCC 6.3~100V
  - i. /10: Reverse Geometry MLCC
  - j. /11: Multi-terminal MLCC
  - k. /12: High voltage MLCC, 250V~5kV

**Action: SMD portion priority on /3 (PN-5099)**  
**Action: Leaded portion priority on /4,5 (needs PN)**
- 6) Low ESL Discussion
  - a. Finalize PN-4563 test procedure.
  - b. What is next step for Low ESL/ESR techniques?
  - c. "HP only" or can "equivalent" verbage be added?
  - d. Add assemble Task Force to agenda and mail out the PN-4563 draft.
  - e. Procedure to be added to next revision of EIA-198, Section II

## 7) Test versus Usage condition

- a. Frequency, voltage (AC and DC), temp
- b. Challenge is in differentiation versus standardization.
- c. May be best considerer for reverse geometry and multi-terminal low ESL MLCC's.
- d. EIA 521 Application Guide will cover these mechanisms.

The S1committee is working on 4 bulletins. One has been revised and other to be release that will address tin whiskers, counterfeit, etc. Next meeting in Fall 2006 will be in Reno Nevada.

No report from DSCC.

## 3.0 Old Business

### 3.1 Review status of EIA-595-A (PN 5094)- Lee, Kemet

The latest version will be submitted for balloting. Mary Berrios will follow up with Lucy on the status.

### 3.2 Review and resolve comments for EIA-469-D (S)4621) – Pollock, Presido

Comments from Casey C. were withdrawn and minor change will be added.

**The document was voted on and unanimously approved to be published. The sign up roster will serve as our official list of voting members. The P2.1 committee would like to request that ECA/EIA move forward with the publishing of this as an ANSI standard.**

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

#### 3.3.1 Part III/3 standard SMD (PN 5099)- Cannon, TDK

SMD focus will be consolidated here

#### 3.3.2 Part III/9 HV radial leaded (PN?)- Lee/Kemet and Pollock/Presidio

#### 3.3.3 Part III/9 HV SMD (PN?)- Malhotra, Murata

#### 3.3.4 Part III/10 Reverse geometry

#### 3.3.5 Part III/11 Multiple terminal geometries

### 3.4 Status of IEC/EIA 521 (PN 5095)- Cannon, TDK

Mary Berrios will take the lead on this PN and it will be review before next meeting.

### 3.5 Review of CB19, tin whisker position statement.

The committee would like to thank Karun for the work done on this bulletin.

### 3.6 Review any additions to PDP-100

Mike Cannon will provide a /3 under PN5099 to the committee for review. Chris recommended will add 3040 and 0505 sizes to this document. The committee members in charge of reviewing this document are Panasonic, AVX, Vishay, and Kemet.

### 3.7 Five-year document review.

### **3.8 Review Active Projects file**

#### **4.0 New Business**

##### **4.1 Elect new chairman**

The chairman suggested we start considering a candidate for next meeting.

##### **4.2 Other new business**

Mike asked Dave Richardson to address the possibility of utilizing a means of video conferencing at a customer's location during the Chairman's meeting.

#### **5.0 Next meeting**

The next meeting will be held the week of 24-29 April 2006 at the Sheraton Yankee Trader Beach Hotel in Ft. Lauderdale, FL.

#### **6.0 Adjournment**

The meeting was adjourned at approximately at 1:15pm.

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

*Michael C. Cannon*

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Michael Cannon  
Chairman

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Terry D. Charles  
Acting Secretary