



**Minutes of P-3 Inductive Components Committee**

**Wednesday, 18 May, 2005 Chateau Sonesta, New Orleans, Louisiana**

**Scope of the P-3 Committee on Inductive Devices:** "This committee covers all types of inductive components regardless of technology used in electronic circuits. It includes Inductors, RF Chokes, Filters, Interference Filters, Inductors and Transformers, Chip Inductors, and Variable Inductors."

Attendees:

<b>NAME</b>	<b>COMPANY</b>
Terry D. Charles	Panasonic
Phil Diglio	Epcos Inc
William Gisseler	TDK
Mike Lauri	IBM
Carl Lindquist	San-O-Industrial Corp
Laird Macomber	Cornell Dubilier
Len Metzger	Panasonic
Ed Mikoski	EIA/ECA
Dave Ritchey	Yageo/Phycomp

<b><u>Member Organizations Present</u></b>	<b><u>Present at this meeting</u></b>	<b><u>Last meeting?</u></b>	<b><u>Meeting Before Last?</u></b>
Cornell Dubilier	Y	n/r	n/r
Epcos Inc	Y	Y	Y
IBM	Y	Y	N
Panasonic	Y	Y	Y
San-O-Industrial Corp	Y	Y	Y
TDK	Y	Y	Y
Yageo	Y	Y	Y

^Indicates activated as member of committee

<u>Member Organizations Absent</u>	<u>Present at This Meeting?</u>	<u>Last Meeting?</u>	<u>Meeting Before Last?</u>
AEM	N	Y	Y
Intel Corporation	N	Y	Y
KOA	N	Y	Y
Taiyo Yuden	N	N	Y

\* Indicates not used in determination of quorum due to record of non-attendance

<u>Other Organizations Present</u>
EIA/ECA

## 1.0 Committee Organization and Procedures

Meeting was brought to order by Chairman Bill Gisseler @ 8:06 am

1.1 Membership & attendance – Sign-in sheet was circulated

1.2 Motion was made to amend Agenda transposing 1.2 and 1.3. Vote was taken and motion carried to accept the amended Agenda.

1.3 Next the minutes from the Fall 2004 meeting was reviewed and a motion was made to accept the minutes as presented. A vote of the members was taken and the motion carried.

1.4 Correspondence – Received draft spec C.M choke and outlines for compilation of test criteria.

## 2.0 Old Business:

2.1 Re-visit proposal to change EIA944 to ANSI Standard (PN4315) tabled until the next meeting. No requests were made to re-visit this, so a motion was made to Table the Proposal indefinitely and leave it as an EIA std.

2.2 Re-visit proposal to change EIA945 to ANSI Standard (PN4233) tabled until the next meeting. No requests were made to re-visit this, so a motion was made to Table the Proposal indefinitely and leave it as an EIA std.

2.3 Review Test Procedures and recommended electrical parameters, per the Spring '04 meeting - data was due by May 15<sup>th</sup>, 2004, but only one manufacturer provided data. At the Fall 2004 meeting a motion was made to continue to pursue collecting this data and to E-mail blank forms

to members who were present at the Fall meeting. This was done and two additional members submitted data. At this meeting, this was deemed still not sufficient of a resource pool to conduct a review, so it was suggested that other members present who have not yet submitted data would respond and this will be reviewed again at the October 2005 (Fall) session in Memphis. This would be for the collection of data for manufacturers of both the Ferrite Beads and the Inductors. Once compiled the P-3 group would endeavor to review the inputs and determine if there is some commonality to use as a revision to the EIA944 and EIA945 specifications. Deadline for the last reply was 11/05/2004, but no date for submission was selected at this meeting.

2.4 EIA/ECA survey of Users/Suppliers (2.3). At this meeting it was determined to table this until more data is received from vendors for 2.3.

2.5 Review package size and layouts – confirm the size options and pad layouts. Each supplier should provide this to Bill Gisseler for the standard EIA SMD packages. The documents should be sent to attendees to be filled out and submitted. Motion was made to add a 1 hour sub-committee, or work session to the May Meeting. Additional workgroup not needed at this session, but once we get the Mechanical outlines group to load their documents on-line for member access a subcommittee review may be required.

2.6 Characterization of Multilayer (ceramic) inductors at RF Frequencies. In order to review this we need data input, so this will be considered a future action item after data is compiled and reviewed for 2.3.

2.7 Discussed Lead Free (Pb –free) activities for inductive devices and beads. No action to be taken by P-3 at this time. The soldering technology committees are working on this. Soldering technology group in focusing on J-STD-020. No actions to be taken, or addressed at this time.

### **3.0 New business and opportunities:**

3.1 Discussed the compilation of Market Data. Inputs on types, sizes, etc.. EIA uses Varis as the agent for compiling the data. Cost to EIA is approximately \$2,500. Need input from EIA/ECA to consider how to work this issue, but it was favorably received. Bill Gisseler will send an E-mail to members for inputs on category breakdowns by type, size, etc.. and we will move forward from there and discuss further at the next session..

3.2 Power Inductors discussions were placed on the Spring Agenda, but were tabled until the Fall session for an outline as to what types should be considered. Members should forward to the Chairman package types and parts of interest for a possible new EIA standard. Parameters would be mechanical size, Inductance range & tolerance, current range, Temp range, Shielded vs. unshielded, RDC, Impedance, Saturation (Delta L or I).

3.3 Common mode chokes – Preliminary SMD common mode choke spec was created by Michael Griffith as a result it was decided that a motion should be made to change the scope of the P-3 Committee approved 10/07/98 to include all types of inductive components;

Original Text

“This committee covers all types of inductive components regardless of technology used in electronic circuits. It includes Inductors, R.F. (Chokes, Filters, Interference filters, Inductors and transformers), chip inductors, and variable inductors.”

Revised Text

“This committee covers all types of inductive components regardless of technology used in electronic circuits. It includes Inductors, RF Chokes, Filters, Interference Filters, Inductors and Transformers, Chip Inductors, and Variable Inductors.”

3.4 Briefly discussed the SP-4621 ANSI/EIA/Standard for destructive Physical analysis DPA and it’s relevance to Multi-Layer inductors. Motion was made to table this until this standard is finalized for the MLCC’s and then would be reviewed for compatibility/applicability.

**4.0 Next Meeting**

October 17 – 20, 2005, Memphis Tennessee

**5.0 Adjournment**

Motion made, seconded and carried to adjourn – 10:05am

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

---

Bill Gisseler  
Chairman

---

Phil Diglio  
Secretary