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Jack Crawford

It's Been One of Those (Good) Times...

IPC has stayed busy, releasing 21 standards and documents in the past three months.

In 2003, I reported on 15 new document releases by IPC. However, we have released nine standards and 12 test methods in the three months since my last report.

Committee involvement by your industry peers is increasing, a positive sign for this industry. Most committee meetings for document development are open meetings, and anyone can participate.

Effective communication requires that the communicators use defined terms. IPC-T-50G, *Terms and Definitions for Interconnecting and Packaging Electronic Circuits*, provides that support. Revision G nearly doubles the listings, with greatly expanded coverage of assembly terms. IPC is working with the International Electrotechnical Commission (IEC) to establish this as an international standard, replacing or supplementing the current IEC dictionary.

Two recently released design/support documents are the guide: IPC-CM-770E, *Requirements for Component Mounting*, which adds discussion of new assembly technologies and is completely reformatted, and IPC-2251, *Design Guide for the Packaging of High Speed Electronic Circuits*.

Three other PCB-related documents are also available. IPC-4411A, *Specification and Characterization Methods for Nonwoven Para-Aramid Reinforcement*, is a PCB fabrication materials standard. IPC-6013A, *Qualification and Performance Specification for Flexible Printed Boards* was updated, as was IPC-D-326A, *Information Requirements for Manufacturing Printed Circuit Boards*.

One standard in use by the interconnect and electronics manufacturing service industries is J-STD-004A, *Requirements for Soldering Fluxes*. The standards effort has included updating 11 IPC-TM-650 Test Methods and developing one new test method:

- 2.6.3.6 *Surface Insulation Resistance - Fluxes-Telecommunications*
- 2.3.13A *Determination of Acid Value of Liquid Solder Flux - Potentiometric and Visual Titration Methods*
- 2.3.28.1 *Halide Content of Soldering Fluxes and Pastes*
- 2.3.32D *Flux Induced Corrosion (Copper Mirror Method)*

- 2.3.33D *Presence of Halides in Flux, Silver Chromate Method*
- 2.3.34C *Solids Content, Flux*
- 2.3.35C *Halide Content, Quantitative (Chloride & Bromide)*
- 2.3.35.1D *Fluorides By Spot Test, Fluxes-Qualitative*
- 2.3.35.2A *Fluoride Concentration, Fluxes-Quantitative*
- 2.4.14.2A *Liquid Flux Activity, Wetting Balance Method*
- 2.4.46A *Spread Test, Liquid, Paste or Solid Flux, or Flux Extracted from Solder Paste, Cored Wires or Preforms*
- 2.6.15C *Corrosion, Flux*

IPC-7912A, *Calculation of DPMO and Manufacturing Indices for Printed Board Assemblies*, adds lands on boards that are to be unpopulated as opportunities for defects and establishes that components placed on the lands would then be defects. The standard can be used by companies that use a common assembly with different component configurations, each with a unique part number.

Finally, publication of J-STD-001CS, *Space Applications Electronic Hardware Addendum to J-STD-001C*, was coordinated by NASA representatives and supported by suppliers to the European Space Agency. The exception document will enable NASA to cancel some federal standards.

IPC committees have seven more documents in ballot, including:

- IPC-7095A, *Design and Assembly Process Implementation for Ball Grid Arrays (BGAs) (2nd Ballot)*
- IPC-A-600G, *Acceptability of Printed Boards*
- IPC-6012B, *Qualification and Performance Specification for Rigid Printed Boards*
- IPC-HDBK-005, *Soldering Pastes Handbook*
- J-STD-020C, *Moisture/Reflow Sensitivity Classification for Non-Hermetic Solid State Surface-Mount Devices*
- IPC-2546, *Amendment 2, Sectional Requirements for Specific PCB Assembly Equipment - Amendment 2: Final Assembly and Packaging*
- IPC-2581, *Generic Requirements for Printed Board Assembly Products Manufacturing Description Data and Transfer Methodology*.

Readers can download any draft document for review at www.ipc.org/status.

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