IPC-HDBK-001F

Handbook and Guide to Supplement J-STD-001

Developed by the IPC-HDBK-001 Task Group (5-22F) of the Assembly and Joining Committee (5-20) of IPC

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Users of this publication are encouraged to participate in the development of future revisions.

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∆0.1 GENERAL

∆0.1.1 Scope This Handbook is a companion reference to the J-STD-001 *Requirements for Soldered Electrical and Electronic Assemblies* (Standard) and is intended to provide supporting information.

Additional detailed information can be found in documents referenced within the Standard (and this Handbook). Users are encouraged to reference those documents to better understand the applicable subject areas.

Although this Handbook uses mandatory terminology (e.g., **shall**, must, etc.), nothing within this Handbook is considered mandatory unless this document is specified as a mandatory requirement in the contract documentation.

The intent of this Handbook is to capture ''how and why'' information and give more background on the specification limits and how they were derived. In addition, other supporting information is provided to give a broader understanding of the process considerations needed for the production of acceptable hardware. The target user of this Handbook is a Process or Manufacturing Engineer.

NOTE: The revision of this Handbook (''F'') was revised in an attempt to align with the base document/Standard (J-STD-001 also rev ''F''). Please check for the latest revision or for any amendment(s) that may include changes that could alter: explanations for how and why, or more detailed discussions on criteria.

∆0.1.2 Purpose The Handbook describes materials, methods, and verification criteria that, when applied as recommended or required, will produce quality soldered electrical and electronic assemblies. The intent of the Handbook is to explain the ''how-to,'' the ''why,'' and fundamentals for these processes, in addition to implementing control over processes rather than depending on end-item inspection to determine product quality.

The J-STD-001 and the IPC-HDBK-001 do not exclude any acceptable process used to make the electrical connections, as long as the methods used will produce completed solder joints conforming to the acceptability requirements of the Standard.

∆0.2 FORMAT (Using This Handbook)

This Handbook provides guidance on the J-STD-001F requirements. The section and paragraph numbers in this Handbook refer and correspond to the section and paragraph numbers in J-STD-001F. However, the information provided in this Handbook is applicable to Users of any previous version of J-STD-001.

Although this document will not provide discussion on each of the differences between J-STD-001F and J-STD-001FS, it may provide information on certain topics addressed in J-STD-001FS, i.e., lead-free mitigation, that may need to be considered in a general soldering process. This information will be included in the applicable section of this Handbook and not highlighted in any manner.

A cross reference listing, provided as Appendix D to this Handbook, will assist Users with identifying related paragraphs in previous revisions of J-STD-001. This cross reference listing includes identification of the associated Space Applications Electronic Hardware Addendum paragraphs for revisions E (ES) and D (DS).

Information concerning the appendices in J-STD-001 is either addressed in the body of this Handbook or covered more thoroughly in another document. An appendices guide is included at the end of Section 13 that links the topics discussed in the appendices of J-STD-001 to the appropriate supplemental information.

Where used verbatim, text that is directly quoted from a standard is italicized. In this Handbook, the word ''Standard'' refers specifically to J-STD-001 Revision F.

NOTE: References in the text of this Handbook (not text quoted from a Standard) referring only to Sections, Tables, and Figures in this Handbook will be annotated accordingly (see Example 1). If the reference is to a Section, Table, or Figure in the Standard, it will be followed by ''of the Standard'' (see Example 2).

Example 1: For more information on lead trimming, see 5.2.0.5.

Example 2: For more information on surface mount components, see Table 7-2 of the Standard.