GEA Mission

The Global Electronics Association promotes industry growth and strengthens supply chain resilience.

About IPC Standards by Global Electronics Association

IPC standards and publications by Global Electronics Association are designed to serve the public interest through eliminating misunderstandings between manufacturers and purchasers, facilitating interchangeability and improvement of products, and assisting the purchaser in selecting and obtaining with minimum delay the proper product for their particular need. Existence of such standards and publications shall not in any respect preclude any entity from manufacturing or selling products not conforming to such standards and publications, nor shall the existence of such standards and publications preclude their voluntary use.

IPC standards and publications by Global Electronics Association are approved by committees without regard to whether the standards or publications may involve patents on articles, materials or processes. By such action, Global Electronics Association does not assume any liability to any patent owner, nor does Global Electronics Association assume any obligation whatsoever to parties adopting a standard or publication. Users are wholly responsible for protecting themselves against all claims of liabilities for patent infringement.

Global Electronics Association Position Statement on Specification Revision Change

The use and implementation of IPC standards and publications by Global Electronics Association are voluntary and part of a relationship entered into by customer and supplier. When a standard or publication is revised or amended, the use of the latest revision or amendment as part of an existing relationship is not automatic unless required by the contract. Global Electronics Association recommends the use of the latest revision or amendment.

Standards Improvement Recommendations

Global Electronics Association welcomes comments for improvements to any standard in its library. All comments will be provided to the appropriate committee.

If a change to technical content is requested, data to support the request is recommended. Technical comments to include new technologies or make changes to published requirements should be accompanied by technical data to support the request. This information will be used by the committee to resolve the comment.

To submit your comments, visit the Status of Standardization page at www.electronics.org/status.

by Global Electronics Association

IPC-HDBK-9798A

Handbook for Press-fit Standard for Automotive Requirements and other High-Reliability Applications

If a conflict occurs between the English language and translated versions of this document, the English version will take precedence.

Developed by the Cold Joining Press-fit Handbook Task Group (5-21n) of the Assembly & Joining Committee (5-20) of Global Electronics Association.

Supersedes:
IPC-HDBK-9798 – April 2022

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

Contact:

Global Electronics Association
3000 Lakeside Drive, Suite 105N
Bannockburn, Illinois
60015-1249
Tel 847 615.7100
Fax 847 615.7105

Table of Contents

Figures

Tables

Handbook for Press-fit Standard for Automotive Requirements and other High-Reliability Applications

1 SCOPE

This document provides guidelines and supporting information for manufacturing electronic assemblies using compliant press-fit technology. The intent is to explain the "how-to" and "why" information, and fundamentals for these processes.

Additional detailed information can be found in documents referenced within each individual section. Users are encouraged to use those referenced documents to better understand the applicable subject areas.

This handbook is supporting the IPC-9797 standard.

1.1 Purpose

This document is for guidance only. The design concepts, guidelines and procedures presented in this document are not requirements, and this document is not binding, unless separately and specifically included by the applicable contract, approved drawing(s) or purchase order.

1.2 Measurement Units

This document uses International System of Units (SI units) per IEEE/ASTM SI 10, Section 3 [Imperial English equivalent units are in brackets for convenience]. The SI units used in this document are millimeters (mm) [in] for dimensions and dimensional tolerances, Celsius (°C) [°F] for temperature and temperature tolerances, grams (g) [oz] for weight, and lux (lx) [footcandles] for illuminance.

Note: This document uses other SI prefixes (ASTM SI10, Section 3.2) to eliminate leading zeroes (for example, 0.0012 mm becomes 1.2 µm) or as an alternative to powers-of-ten (3.6×10^3 mm becomes 3.6 m).

1.2.1 Verification of Dimensions

When an inspection is done on an assembly, measuring dimensions and determining percentages listed in the document are not required unless there is a doubt or a question is raised about the acceptance of the product. When there is a doubt or a question is raised, then a referee determination should be implemented, at which time measurements should be made or percentages calculated using the referee magnifications defined in the document. For determining conformance to the specifications in this document, round all observed or calculated values "to the nearest unit" in the last right-hand digit used in expressing the specification limit, in accordance with the rounding method of ASTM E29. For example, specifications of 2.5 mm max, 2.50 mm max or 2.500 mm max, round the measured value to the nearest 0.1 mm, 0.01 mm or 0.001 mm, respectively, and then compare to the specification number cited.

1.3 Use of "Lead"

For readability and translation, this document uses the noun lead only to describe leads of a component. The metallic element lead is always written as Pb.

1.4 Abbreviations and Acronyms

Periodic table elements are abbreviated in the document. See Appendix A for abbreviations, including elements and acronyms used in this document.

1.5 Terms and Definitions

Other than those terms listed in IPC-9797, the definitions of terms used in this document are in accordance with IPC-T-50.