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Terms and Definitions for Interconnecting and Packaging Electronic Circuits

Supercedes IPC-T-50M
May 2015

An international standard developed by IPC

Association Connecting Electronics Industries

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Standards Should:

- Show relationship to Design for Manufacturability (DFM) and Design for the Environment (DFE)
- Minimize time to market
- Contain simple (simplified) language
- Just include spec information
- Focus on end product performance
- Include a feedback system on use and problems for future improvement

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- Increase time-to-market
- Keep people out
- Increase cycle time
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- Contain anything that cannot be defended with data

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Developed by the Terms and Definition Committee (2-30) of IPC

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

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Acknowledgment

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Terms and Definitions for Interconnecting and Packaging Electronic Circuits

Scope This document is designed to provide definitions for terms commonly used in the electronics industry. The definitions are intended to provide sufficient clarity of detail such that a reader utilizing English as a second language could understand the subtleties of the meaning. Terms which have a specialized meaning or usage within a single IPC document may be defined differently within that document. Commonly used English language terms which do not change meaning when applied to electronics are not defined here.

Acronyms commonly used in electronics are defined in Appendix A.

Note: Throughout this document many terms contain a definition that only refers to another term. An example would be the term "Printed Circuit Board", whose definition reads as "See 'Printed Board'". In such cases, the term being referred to (in this example "Printed Board") is the preferred industry term, and the term whose definition contains the reference (in this example "Printed Circuit Board") is considered an historic or legacy term.

Note: Changes made to this revision of the IPC-T-50 are indicated throughout by gray-shading of the term and definition and/or Figure header.

A

AABUS (As Agreed Between User and Supplier)
Indicates additional or alternate requirements that **shall** be negotiated between the user and the supplier in the procurement documentation. Examples include contractual requirements, modifications to purchase documentation and information on the drawing. Agreements can be used to define test methods, conditions, frequencies, categories or acceptance criteria within a test, if not already established.

Abrasion Resistance
The ability of a material to withstand surface wear.

Absolute Maximum Ratings
The range of voltages, currents, temperatures, etc., beyond which a device may suffer degradation in performance or reliability, may cease functioning or may suffer irreversible damage.

Absorption Coefficient
A measure of the absorption of radiant energy from an incident beam as it transverses an absorbing medium.

Absorptivity, Infrared
The ratio (or percentage) of the amount of energy absorbed by a substrate as compared with the total amount of incident energy.

Accelerated Aging
The artificial exposure, over a relatively short period, of a representative material, component or system to environmental or other conditions that are increased above normal operating values. The intent is to produce changes that may occur during its expected operating life. Aging conditions may include salt spray, vibration, power conditions, steam aging, etc.

Accelerated Equivalent Soak (Plastic Encapsulated SMDs)
An environmental soak of a component at a higher temperature for a shorter time (compared to the standard soak), to provide roughly the same amount of moisture absorption. See also "Soak."

Accelerated Life Test
See "Accelerated Aging".

Accelerated Test
A test of an electronic component or electronic assembly in a shorter period of time by applying severe condition(s).

Acceleration Factor (AF)
The ratio of stress in reliability testing to the normal operating condition.

Acceptable Condition
This condition, while not necessarily perfect, will maintain the integrity and reliability of the assembly in its service environment.

Acceptance Quality Level (AQL)
An index that, when accompanied by a C=0 sampling plan, denotes the minimum number of samples required for lot inspection.

Acceptance Tests
Those tests deemed necessary to determine the acceptability of a product and AABUS.

Acceptance Inspection (Criteria)
An inspection that determines conformance of a product to design specifications as the basis for acceptance.

Access Hole (Lamination)
A blind hole that is made in a multi-layer board through one or more layers to provide access to the surface of a land on the inner layer of the board. (See Figure A-1.)

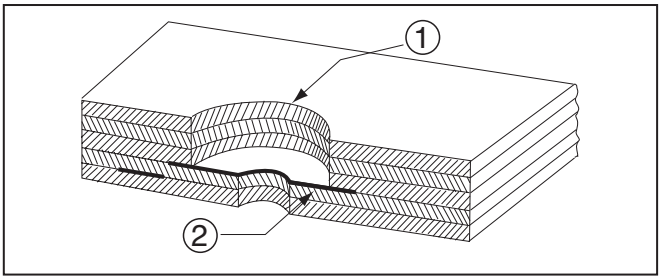

Figure A-1 Access Hole
1. Access Hole
2. Land