



IPC-T-50N

Terms and Definitions for Interconnecting and Packaging Electronic Circuits

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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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.)

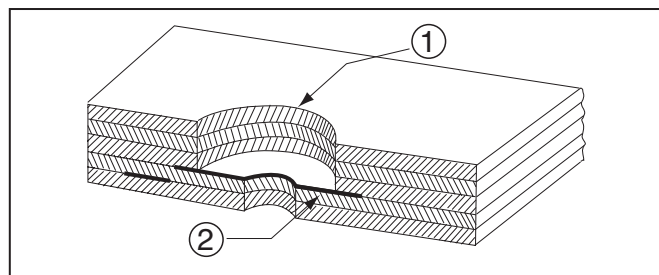


Figure A-1 Access Hole
1. Access Hole
2. Land

Access Protocol

An agreed principle for establishing how nodes in a network communicate electronically.

Accordion Contact

A type of connector contact that consists of a flat spring formed into a "Z" shape in order to permit high deflection without overstress.

Acid Flux

A solution of an acid and an inorganic, organic, or water soluble organic flux. (See also "Inorganic Flux," "Organic Flux," and "Water-Soluble Flux.")

Acid Number

The amount of potassium hydroxide in milligrams that is required to neutralize one gram of an acid medium.

Acid Value

See "Acid Number."

Acid-Core Solder

Wire solder with a self-contained acid flux.

Acoustic Microscope

Equipment that creates an image using ultrasound to view a specimen's surface or subsurface features, including defects and damage.

Actinic Radiation

Light energy that reacts with a photosensitive material in order to produce an image.

Activating (Bonding)

A treatment that modifies a material surface to promote improved adhesion.

Activating (Plating)

A treatment that renders nonconductive material receptive to electroless deposition.

Activating Layer

A layer of material that renders a nonconductive material receptive to electroless deposition.

Activator

A substance that improves the ability of a flux to remove surface oxides from the surfaces being joined.

Active Desiccant

Desiccant that is either fresh (new) or has been baked according to the manufacturer's recommendations to renew desiccant to original specifications.

Active Device

An electronic component that can change a signal or respond to the signal in a way that is dependent upon the nature of the signal and/or other controlling factors. (This includes diodes, transistors, amplifiers, thyristors, gates, ASIC's and other integrated circuits that are used for the rectification, amplification, switching, etc., of analog or digital circuits in either monolithic or hybrid form.)

Active Metal

A metal that has a very high electromotive force.

Active Trimming

Adjusting the value of a film circuit element in order to obtain a specified functional output from the circuit while it is electrically activated. (See Also "Laser Trimming.")

Additive Process

A process for obtaining conductive patterns by the selective deposition of conductive material on clad or unclad base material. (See also "Semi Additive Process" and "Fully Additive Process.")

Add-On Component

Discrete or integrated packaged or chip components that are attached to a film circuit in order to complete the circuit's function.

Adhesion (Pressure Sensitive Tape)

The bond produced by contact between pressure-sensitive adhesive and a surface.

Adhesive

A substance such as glue or cement used to fasten objects together. In surface mounting, an epoxy adhesive is used to adhere SMDs to the substrate.

Adhesive Failure

The separation of an adhesive bond at the interface between two materials.

Adhesion Layer

The metal layer that adheres a barrier metal to a metal land on the surface of an integrated circuit.

Adhesion Promotion

The process of preparing a surface to enhance its ability to be bonded to another material.

Adhesive Coated Substrate

A base material upon which an adhesive coating is applied, for the purpose of retaining the conductive material (either additively applied or attached as foil for subtractive processing), that becomes part of a metal-clad dielectric.

Adhesive-Coated Catalyzed Laminate

A base material with a thin polymer coating, that contains a plating catalyst, that is subsequently treated in order to obtain a microporous surface.

Adhesive-Coated Uncatalyzed Laminate

A base material with a thin polymer coating, that does not contain a plating catalyst, that is subsequently treated in order to obtain a microporous surface.

Adhesive Transfer (Pressure Sensitive Tape)

The transfer of adhesive from its normal position on the pressure sensitive tape to the surface to which the tape was attached, either during unwind or removal.

Adsorbed Contaminant

A contaminant attracted to the surface of a material that is held captive in the form of a gas, vapor or condensate.