

Axiom Electronics PCBA Design for Manufacturability Guidelines

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DFM Subject: Terms and Definitions

Term	Definition
Annular Ring	The portion of conductive material completely surrounding a hole.
Aspect Ratio	A ratio of the PCB thickness to the diameter of the hole.
Axial Leads	Leads that extend out of the ends of discrete components along the central axis.
Ball Pitch	The center to center distance between the balls of a BGA package.
BGA	Ball Grid Array. A surface mounted package with bottom side solder balls arranged in an array (row and column) pattern.
Blind Via	A via that connects an outer layer of a PCB to an inner layer but does not extend through to the other side of the PCB.
BTC	Bottom Termination Component. A lead-less surface mounted package with one or two rows of peripheral solder pads. Most BTC's also contain a thermal pad that is soldered to the PCB.
Buried Via	A via that connects two inner layers of a PCB but does not extend through to either side of the PCB.
Card Guide	A plastic or metal support for a PCB. The card guide is typically mounted in a chassis.
Castellation	A leadless termination used on leadless ceramic chip carriers and resistor networks.
Circuit	The interconnection of devices in one or more closed paths to perform a desired electrical function.
Circuit Density	The number of circuits per a given unit of PCB area.
Component Density	The number of components per a given unit of PCB area.
Conveyor, Edge	A conveying mechanism that supports the PCB by the edges.
CSP	Chip Scale Package. Similar to a BGA with the stipulation that the package is not larger than 125% of the die size.
Daughter Board	A PCBA that plugs into another PCBA.
DIP	Dual In-Line Package. A through hole mounted package with two parallel rows of leads.
Fiducial	A mark used by a vision system to identify the location and orientation of a PCB in a machine.
FPT	Fine Pitch Technology. Surface mounted packages with a lead or ball pitch of less than 0.8mm (0.032")
Ground Plane	A conductor layer used as a common reference point for circuit returns, shielding or heat sinking.
Gull Wing Lead	A lead configuration on a surface mounted package that extends outward and downward from the package body.
IC	Integrated Circuit. A complete circuit made by vacuum disposition and other techniques, usually on a silicon chip.
J-Lead	A lead configuration on a surface mounted package that forms a "J".

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Land Pattern	The conductive areas on a PCB to which component leads, terminations or balls are soldered.
Lead Pitch	The center to center distance between leads of a component package.
Pad	The conductive area around a plated or non-plated through hole.
PLCC	Plastic Leaded Chip Carrier. A surface mounted package with “J” leads.
Plated Through Hole	A hole formed by deposition of metal on the sides of the hole and both sides of the pad.
PCB	Printed Circuit Board. A bare (unpopulated) PCB.
PCBA	Printed Circuit Board Assembly. A printed circuit board that is fully populated with components.
PGA	Pin Grid Array. A through hole mounted package with bottom side leads arranged in an array (row and column) pattern.
Primary Side	The top side of a PCB.
Reference Designators	Markings (letters and numbers) that identifies components and their locations on the PCBA.
Secondary Side	The bottom side of a PCB. Also referred to as the solder side because it contacts the solder during wave soldering.
SMT	Surface Mount Technology. The process of mounting components to the surface of one or both sides of a PCB.
SOIC	Small Outline Integrated Circuit. A surface mounted package with gull wing leads.
Soldermask	A PCB coating that covers the entire surface except for areas that will be soldered.
Solder Pallets	Custom tooling designed to hold a PCB and mask specific areas on the secondary side of the PCB during wave soldering.
Via	A plated through hole that forms a conductive path between different layers of the PCB.