Factsheet

éolane SysCom

Design for Manufacturing
Optimization in the design of electronic assemblies

Ever smaller components and PCBs, high packing densities and shorter throughput times in production are influencing the development and manufacture of printed circuit boards.For this reason, we offer professional service in the run-up to series production to avoid deadline pressure and costs if the PCB layout cannot be manufactured without errors. Your advantage: Savings in time-consuming subsequent corrections and unnecessary prototype or initial sample runs.

Design specifications for efficient production:

- outer edge around the PCB / PCB panel, recommendation 8 mm.
- Retaining ridges for routing should be approx. 0.5 mm wide for a printed circuit board 2 mm thick. Design ridges as negative predetermined breaking point
- recognition, register, fiducial marks are indispensable for exact, process-safe position verification of the PCBs
- too small distances between SMD and THT components make an automatic and process-safe production difficult
- minimum distance of components to the board edge and mounting holes
- SMD connection pads must not be placed too close together. We always recommend solder resist between the pads. The components float in the solder paste and cannot be fixed in the intended position.
- Avoid through-hole plating in the SMD pad. During the soldering process, tin flows off through the hole and the component may not be soldered properly.
- Do not place components too close to the edge of the circuit board and in the vicinity of mounting holes

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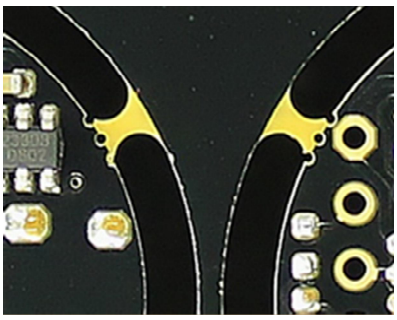
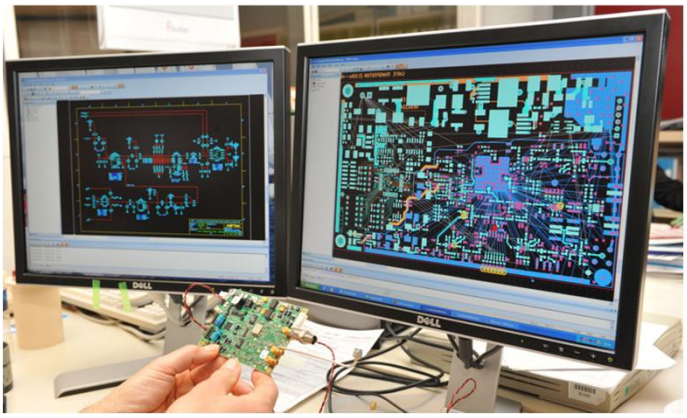
Our basics:

- IPC-A-610 "Acceptability of Electronic Assemblies" - as standard for the optical evaluation of solder joints
- Design guidelines from machine-specific specifications
- Specifications for test facilities
- Component specifications from manufacturers, specifications for pad design, etc.
- Specifications on the part of the manufacturer of THT components
- Recommendation: Diameter of THT hole should be 0.4 mm larger than the wire diameter of the component. This ensures that the capillary action allows the solder to rise unhindered.
- Specifications for blank design and blank separation

Design for Manufacturing *uncovers potential sources of errors and problems. This optimizes the assembly process and keeps it cost-efficient.*





We support with:

- regularly instructed employees according to IPC-A-610 standard
- Check of PCB data, check component arrangements, component-related evaluation of pad sizes
- Check polarity or orientation of components
- Assembly visualization and visualization of problems before the start of production
- Preparation of manufacturing data for SMD, AOI, selective processes
- Consideration of test specifications and repair conditions
- Concept development for electrical and functional test, in-circuit test and burn-in (TWP)

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Stand Mai 2022