Guide to Documentation Requirements for Printed Circuit Board and Multilayer Boards

IMAGES

To help you quickly access the services we offer, the following is a guide to the preferred requirements for producing quality Printed Circuit Boards.

Can be supplied as artworks, penplots, photoplots or photoplot files, so long as the quality and registration of the images is of a standard that will enable a good quality board to be produced. Another important criteria is the presence of orientation marks within the boundary of board. These marks could be the board reference so long as it cannot be read from the other side. (This is for your protection to prevent the boards made inside out).
Images should comply with design rules that will result in a board that will meet performance and cost requirements.

ARTWORKS

Scale must be given, tapes securely stuck to the backing sheet, track to pad & track to track joints complete and the backing sheet clean.

PENPLOTS

Scale must be given and be at least 2:1. Plots must also offer sharp edge definition and traces dense enough for blocking light when photographing.

PHOTOPLOTS

Preferred on 7mil (178mμ) thick base for stability. Films should be plotted on laser photoplotter or on vector photoplotter using a minimum resolution of ½mil (13mμ).

PHOTOPLOT FILES

Preferred in Gerber® format although accepted in other formats. (Refer to CID-014 for information on Documentation in Digital Form).

PHOTOPLOTS OR PHOTOPLOT

files are the only acceptable form of supplying images for multilayers and boards with fine (0.2mm or smaller) tracks.

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Nach DIN EN ISO 9001 : 2000
Zertifikat-Nummer: 05124-1 aus 2005

DRAWINGS

Drawings must be supplied with each new job and should contain the following information to ensure that the finished board is to your requirements.

HOLE SIZES

Always required even when a drill file is supplied, to enable inspection of panels immediately after drilling and finished boards prior to despatching. Hole sizes must be clearly represented with distinct differences between each size. Tolerances are not required unless different to our standard of +0.1 / -0.05 mm.

MECHANICAL SIZES

Preferred with overall mechanical dimensions including notches, cutouts and slots. Also preferred is a positioning (datum) dimension (drilled hole is best). Tolerances are not required unless different to our standard of + / -0.25 mm.

MANUFACTURING INFORMATION

Other information required for all boards includes:

- board thickness (standard = 1.6mm)
- base copper thickness (std = 18mµ)
- solder mask colour (std = green)
- solder mask type (std = liquid photoimageable)
- component legend colour (std = yellow)
- bare board testing requirement (std for multilayer and fine line production runs)

Extra information required for multilayers includes:

- special dielectric spacing requirements (if important)
- copper thickness of internal layers (std = 35mµ except for track width <0.25 mm)
- lay up sequence (if important) numbering component side as layer 1.

DRILL & ROUT FILES

Welcomed with CAD generated designs, except with pen plotted artworks due to calibration differences between penplotter and the highly accurate CNC drilling machines.
Preferred in Sieb & Meyer format although accepted in other formats.

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