REI

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DEKRA
ISO 9001:2015

PCB Routing, Fabrication & Assembly
Wire Harness & Cable Assembly
Overlays & Membrane Switches
Sheet Metal & Injection Molding
Complete Electronics Box Build

PC Board Specifications

Many PCB designers do excellent PCB design work but fail to provide bare minimum PCB specifications. In order to submit our quotes in timely manner, at a minimum, Reliance needs following PCB specifications. If you have any other special requirements, please go ahead and mention them.

Either put all specifications in the Drill drawing (also known as PCB fabrication drawing) or in a text file embedded in PCB Gerber files.

1. **Material:** Such as FR-4, Polyimide, Teflon, Rogers, Metal Clad, Sink-Pad, etc.

2. **Thickness:** Available range is from 0.014" to .250".

   2.1 For single and double sided boards, the standard material thicknesses are 0.031", 0.062", 0.093", 0.125" and 0.250". If you need any other thickness, Reliance will custom make it and it will be relatively costly.

   2.2 For multilayer boards we can provide almost any thickness you need.

3. **Final Copper weight on outer layers:** from 1 oz to 12 ozs. Note that 1 oz equals to 0.0014". For any thickness over 2 ounces, the boards start becoming costlier.

4. **Impedance Control**: Impedance requirements (if there is any)

5. **Multilayer Boards:** (Boards having more than 2 layers):

   5.1   Copper thickness of internal layers

   5.2   Thickness of internal individual core material (only if there is any preference).

   5.3   Layer Stack up.

6. **Final Finish:** Any type of coating over outer exposed copper is called Final Finish. Commonly used Final Finishes are: Leaded Solder, Lead Free Solder, ENIG (Electroless Nickel-Gold), Hard Gold, Immersion Silver, Immersion Tin and OSP (Organic Solderability Preservative).

7. **Solder Mask:** The default type is LPI (Liquid Photo Imageable) and the default color is Green. Other available colors are Red, Blue, Black, White and Clear.

8. **Silk Screen Color:** The default color is White. Other available colors are, Red, Blue, Black, Yellow, Orange and Brown.

9. **Date Code, if required:** The format of the date code, only if there is any preference.

   The default format is "XXNN" where XX is week of the year and NN is current year.

10.   **Manufacturer's logo and UL flammable rating:** only if required.

Two most important features some PCB designers do not pay attention to:

Solder Dams: We need solder mask between two adjoining pins on any fine pitch ICs or connectors. We call them Solder Dams and they prevent molten solder flowing and shorting two adjoining pins. So please make sure you have solder dams. By the way, Reliance can manufacture 4 mil wide solder dams.

Fiducials: For any PC board that has SMT parts on any side, you must have at least three internal Fiducial Marks near any three corners. Reliance can use almost any size and shape of fiducial marks but does prefer 0.060" diameter Round Fiducials.