

1. Assign the terms from the left column to the corresponding definitions on the right.

HDI

It is an enhancement to RS-274-D data format as an extended version.

Conductive Surface Coating

It provides the basis for creating the circuit pattern

VIA

It is an electrical connection between layers in a physical electronic circuit that goes through the plane of one or more adjacent layers.

RS-274X

Abbreviation used to refer to High Density Interconnect PCBs

2. List three basic characteristics of High Density Interconnect printed circuit boards.

1. _____
2. _____
3. _____

3. Correct the text so that the following statements are true.

The power supply pins should be decoupled directly to the ground plane by using located (inductances / ceramic capacitors) as close as possible to the integrated circuit power pins.

In general, frequencies higher than 1GHz (1GHz / 1MHz) are considered as high frequencies.

Single-layer PCBs are made out of a single layer of (base material or substrate / resine).

Aluminum backed PCBs are composed of an (Au / Al) backing, a highly thermally conductive dielectric layer and a standard circuit layer.

The rigid-flex PCBs, combine the (worst / best) of both rigid boards and flexible circuits integrated together.

4. Assign the terms from the left column to the corresponding definitions on the right.

Floor plan

It refers to the white ink legend in the PCB that identifies the components, tests points,...

Schematic design

Drawing that indicates the general location of components on the PCB.

DRC

Diagram of an electronic circuit into the CAD software.

Silkscreen

It is a CAD software feature that checks if the routed PCB satisfies the design rules.

5. List a minimum of 5 basic steps of the PCB fabrication process.

1. _____
2. _____
3. _____
4. _____
5. _____

6. Correct the text so that the following statements are true.

Keep digital and analog grounds $\left(\begin{smallmatrix} \text{together} \\ \text{separate} \end{smallmatrix} \right)$ because voltage and current spikes from $\left(\begin{smallmatrix} \text{analog} \\ \text{digital} \end{smallmatrix} \right)$ circuits can generate interference noise in the $\left(\begin{smallmatrix} \text{digital} \\ \text{analog} \end{smallmatrix} \right)$ circuits.

When placing components, $\left(\begin{smallmatrix} \text{minimize} \\ \text{maximize} \end{smallmatrix} \right)$ trace lengths and avoid $\left(\begin{smallmatrix} 90 \\ 45 \end{smallmatrix} \right)$ degrees angles.

Manufacturers use a $\left(\begin{smallmatrix} \text{photo plotter} \\ \text{printer} \end{smallmatrix} \right)$ to obtain a $\left(\begin{smallmatrix} \text{digital} \\ \text{negative} \end{smallmatrix} \right)$ image of the PCB.

Sensitive signals should be $\left(\begin{smallmatrix} \text{kept away} \\ \text{shielded} \end{smallmatrix} \right)$ from noise sources with planes and be kept impedance controlled.

