

Design rules for PCB testing on test fixtures

Test side

It is advantageous if all nets can be contacted from one side. Then the DUT only needs to be contacted/touched from one side. The preferred side should be the one that has either no components at all or the components with the lowest height.

Vias

Vias should not be covered with solder resist, if possible, so that they are available as contact points.

- Vias that have to be covered with solder resist for manufacturing reasons (e.g. short-circuit risk due to insufficient spacing) should be marked differently in the CAD data than the open vias.

Centering/catch holes

Centering/catch holes are required so that the DUT can be guided safely for contacting.

Experience has shown that drill diameters between 2 and 3.5 mm are optimal. To ensure that the assembly is inserted without twisting, it is advisable to position the locating/guide holes asymmetrically. If possible, the guide holes should be located in each corner of the flat module.

Test surfaces

If possible, 2 to 2.5 mm diameter should be provided for test surfaces. The minimum dimension should not be less than 1 mm (diameter). The minimum distance (center to center) of adjacent test areas should be 1.275 mm (corresponding to grid dimension 1.275 == 50 mil), but better is 1.5 mm center-to-center spacing. These small test areas should be used as sparingly as possible, because thin test pins must be used for this and their stability is lower than with thicker pins.

Distance of test surface to components

The test surfaces should be at least 1.5 mm away from adjacent component edges.

Edge strips

A component-free margin of 5-6 mm should be left at the outer edges.

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