

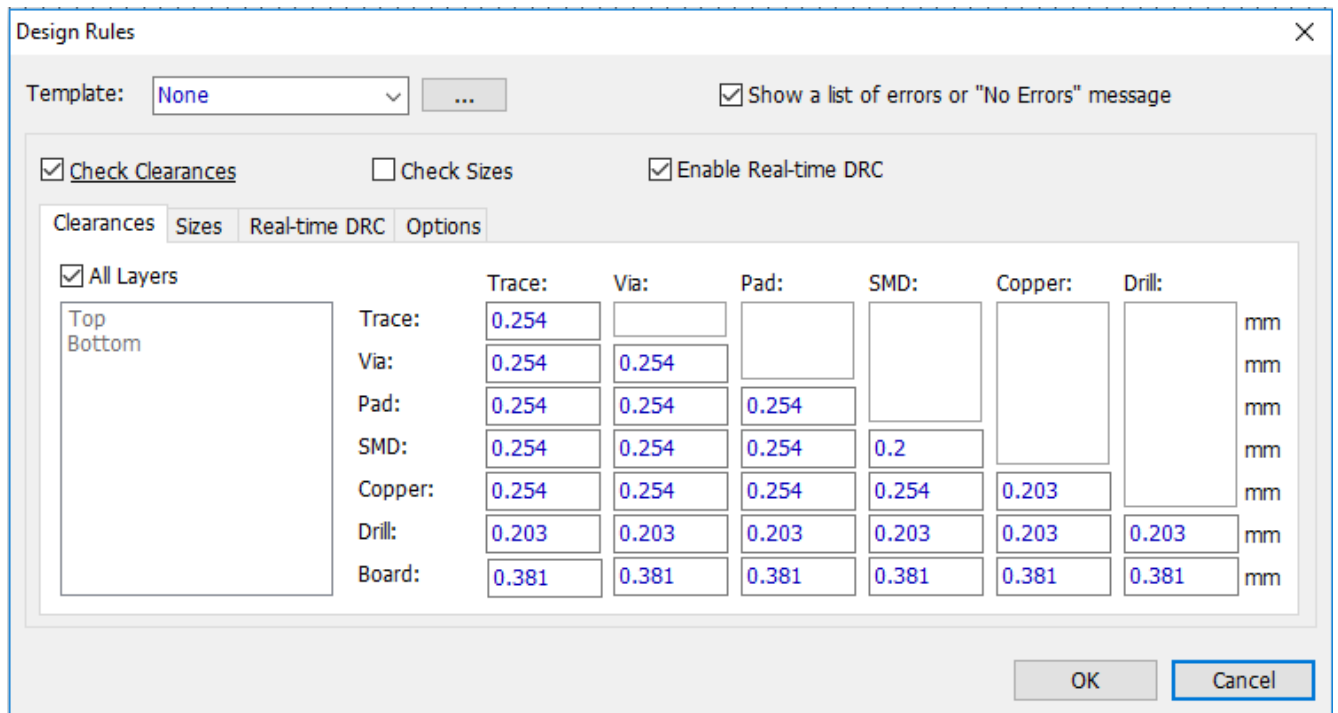
File Preparation for DipTrace

Design Restraints:

Clearances:

The minimum clearance between tracks for through hole components is 0.254mm (10 thou), for SMD it is 0.2mm (8 thou). If you require smaller clearance speak to the tech staff first.

In DipTrace Set the Design Rules to match the following to ensure your board meets the minimum clearances.



Pad Sizes and Shape

Whenever possible use **Round Pads**

The default pad size and shape usually needs to be increased for quality and ease of soldering.

The following table can be used as a guide for pad and hole size:

Component Suggestion	Suggested Pad Size	Hole Size (mm)
Transistors - TO-92 / small diodes - 1n4148 etc...	1.5 x 1.5	0.60
LED	1.6 x 1.6	0.70
1/4 watt resistors etc. Capacitors...	1.8 x 1.8	0.80
Header Pins	1.9 x 1.9	0.90
Rectifier Diodes - 1N4004 etc, voltage reg. 7805...	2 x 2	1.00
	2.2 x 2.2	1.10
	2.5 x 2.5	1.20
Screw Terminals.... Some relays.... PCB Switches	3 x 3	1.50
Mounting Holes for screws / standoffs etc...	5 x 5	3.125

Note: If your hole sizes do not match one of the hole sizes here, we will adjust it to the nearest.

Track Width

To ensure consistent results, a minimum track width of .4mm is suggested. If you wish to use smaller tracks please speak to Tech Staff first.

Number of Layers

It is good practice to use as few layers as possible when producing a PCB, with less layers the board is easier to solder and cheaper to produce.

Often, autorouters are not very efficient at producing single layer boards and will default to 2 layers. Manually routing the tracks although time consuming, will produce a better more logical layout and often you will achieve your design on a single layer when the autorouter can't.

If you submit a file to be produced that is 2 layers and the Staff member producing the board can spot an obvious way of changing it to a single layer, you will be contacted and asks to improve the design.

Finally, ensure when producing a single sided board that you are drawing the tracks on the correct layer (usually the bottom).