# Pcal Photodiode Head (D1300210-v6)

The board is meant to fit in the existing Pcal photodiode head housings.

## Changes from D1300210-v5

This board revision has the following explicit changes from the previous version.

* Solder pad for the AD590 temperature transducer sensing element.
* A (mostly) isolated pad around the 3mm photodiode is connected to the solder pad for the AD590. Hopefully this might give a better indication of the photodiode temperature rather than the temperature of the whole circuit board.
* A guard ring is placed around the inputs of U1. This might help reduce any offsets caused by currents from VEE.
* U2 is configured as a non-inverting buffer in case extra gain is required.
* The power supply bypassing for U1 has changed.

## Top view

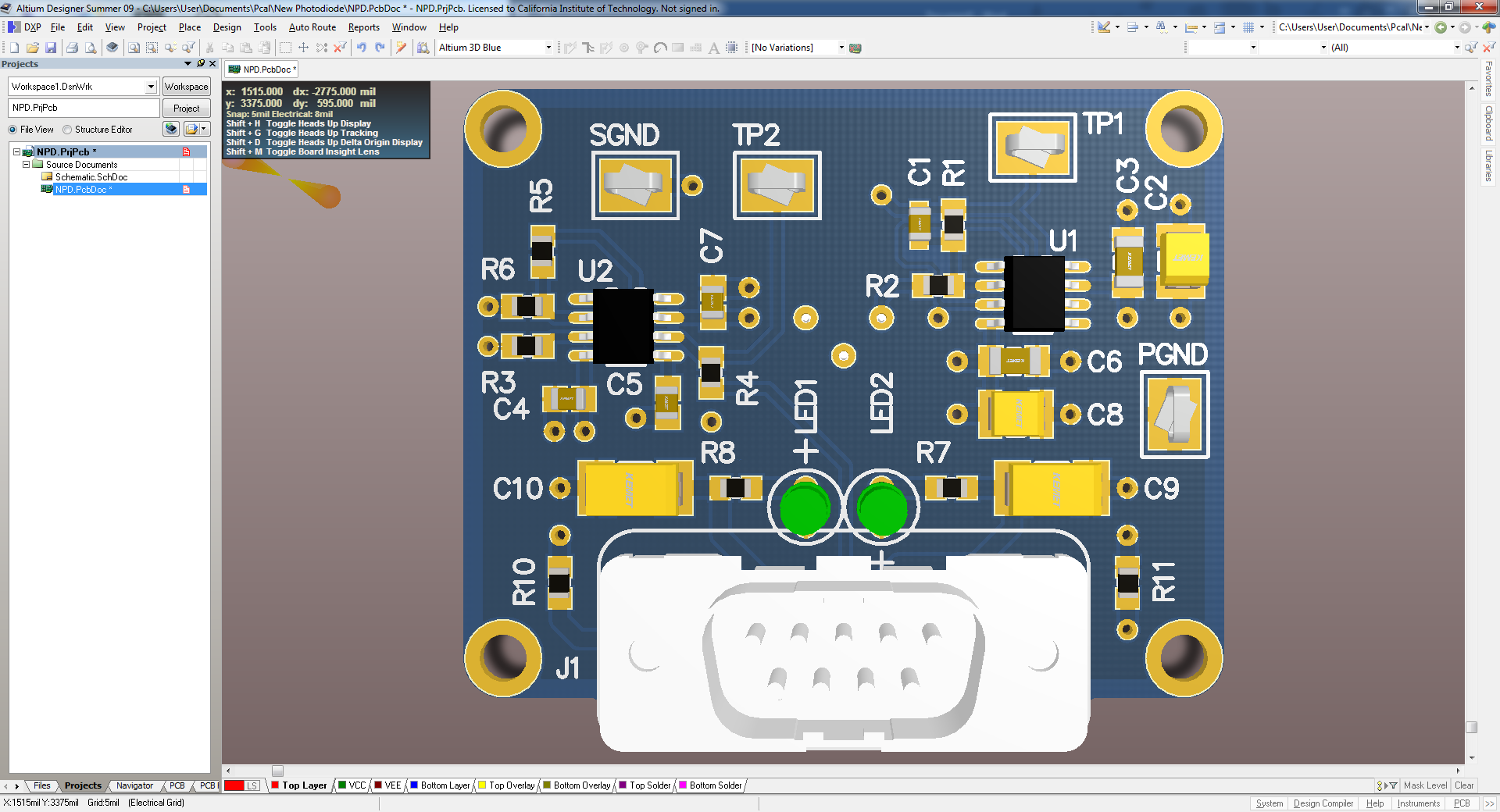


Figure . Top view of the board.

## Guard ring

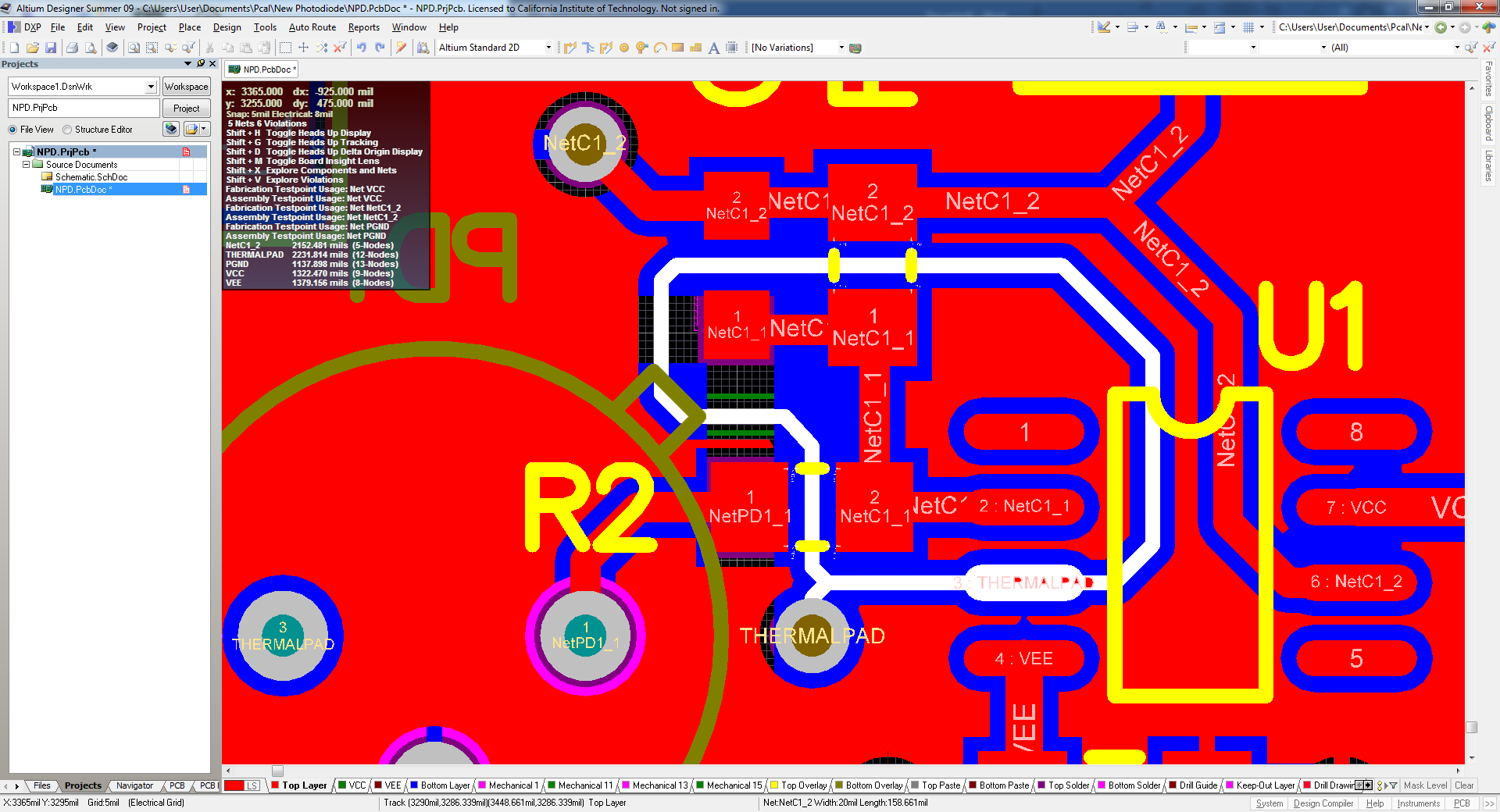


Figure . The guard ring around the inputs to U1 is shown in white.

## Bottom view

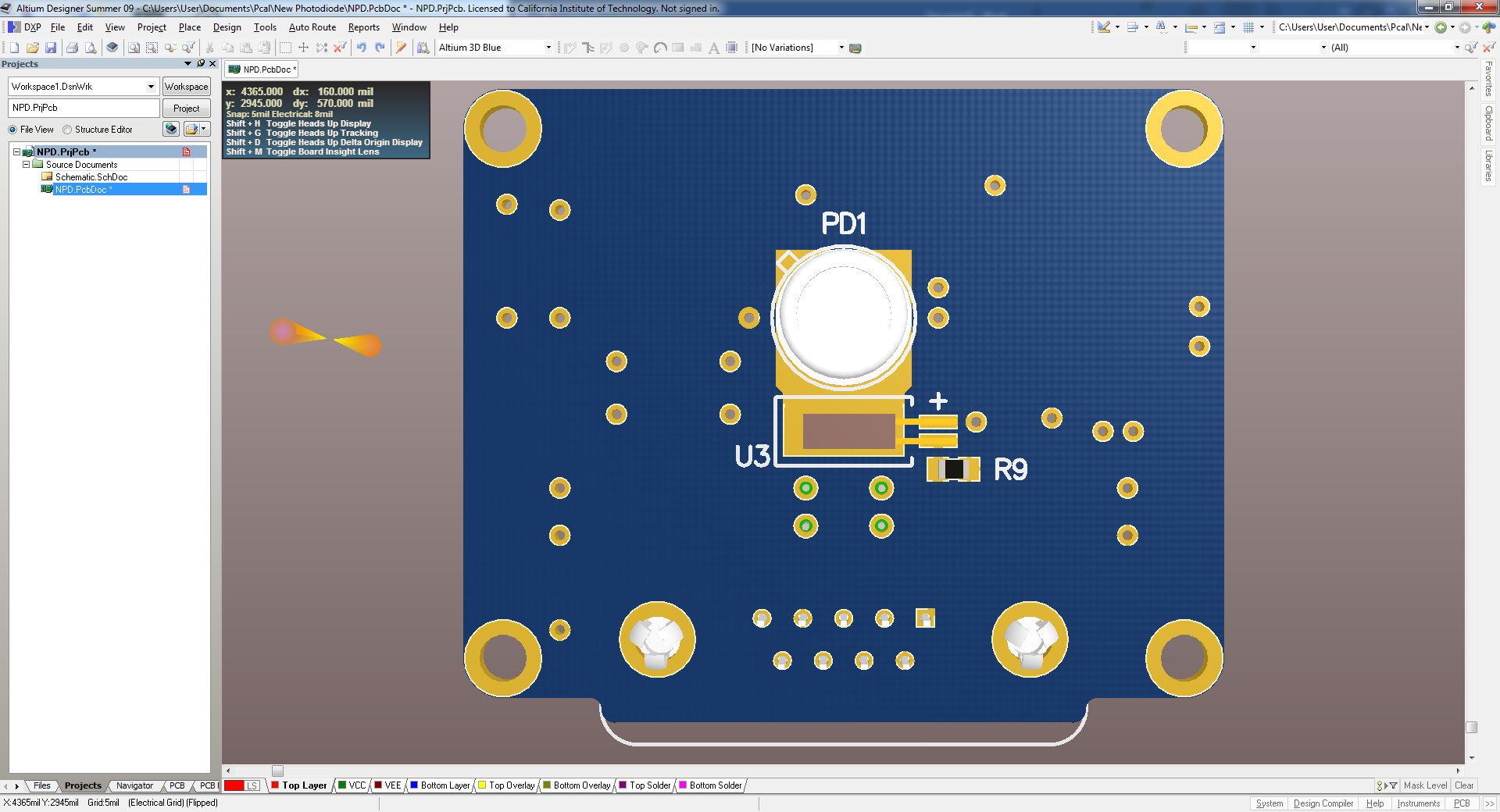


Figure . Bottom view of the board.

## Thermal pad around photodiode

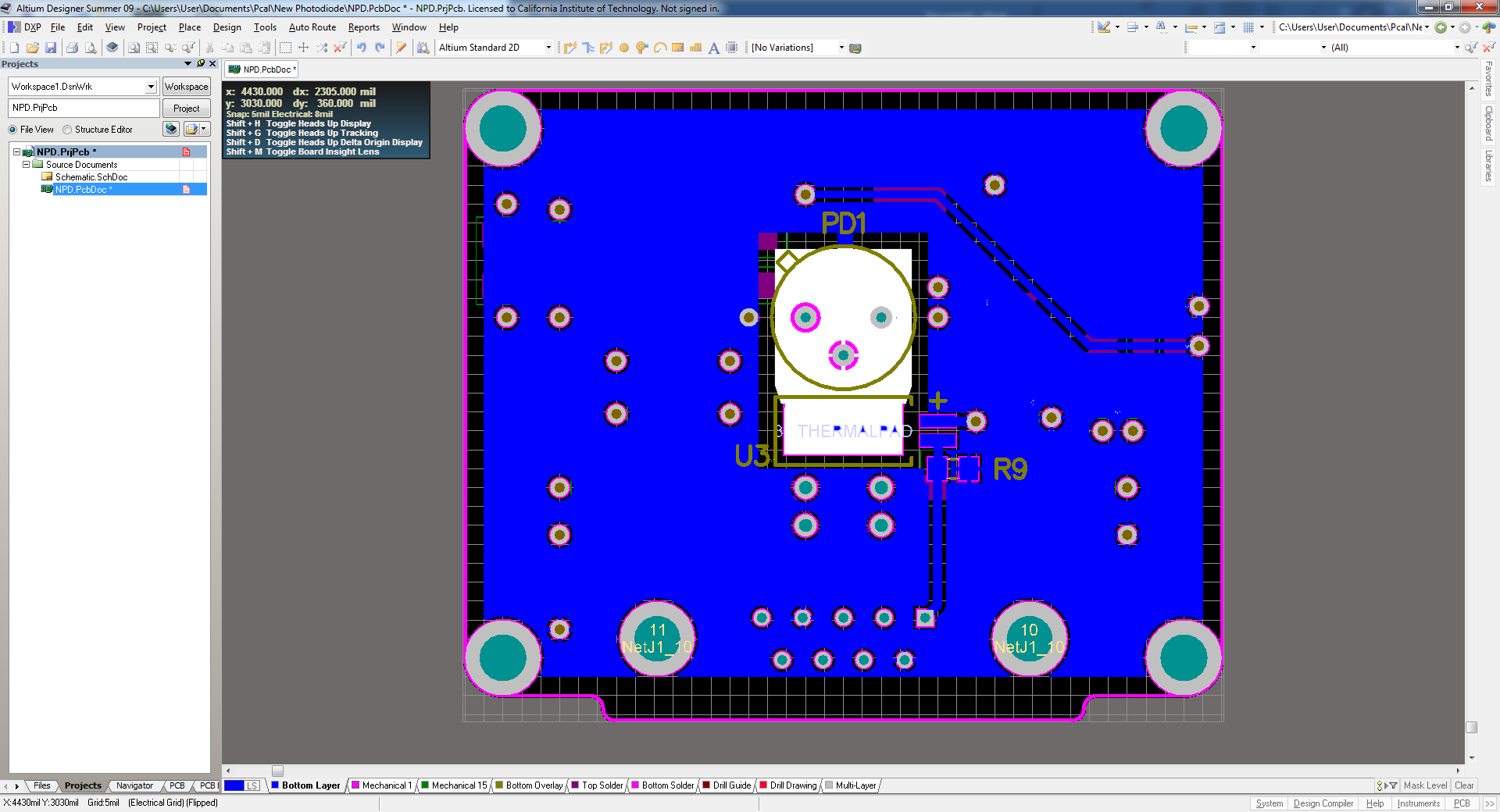


Figure . The thermal pad around PD1 is shown in white. This is electrically connected to signal ground plane by a trace at the top of the pad.

## Miscellaneous views

The following views should give a rough idea of what the assembled board should look like.

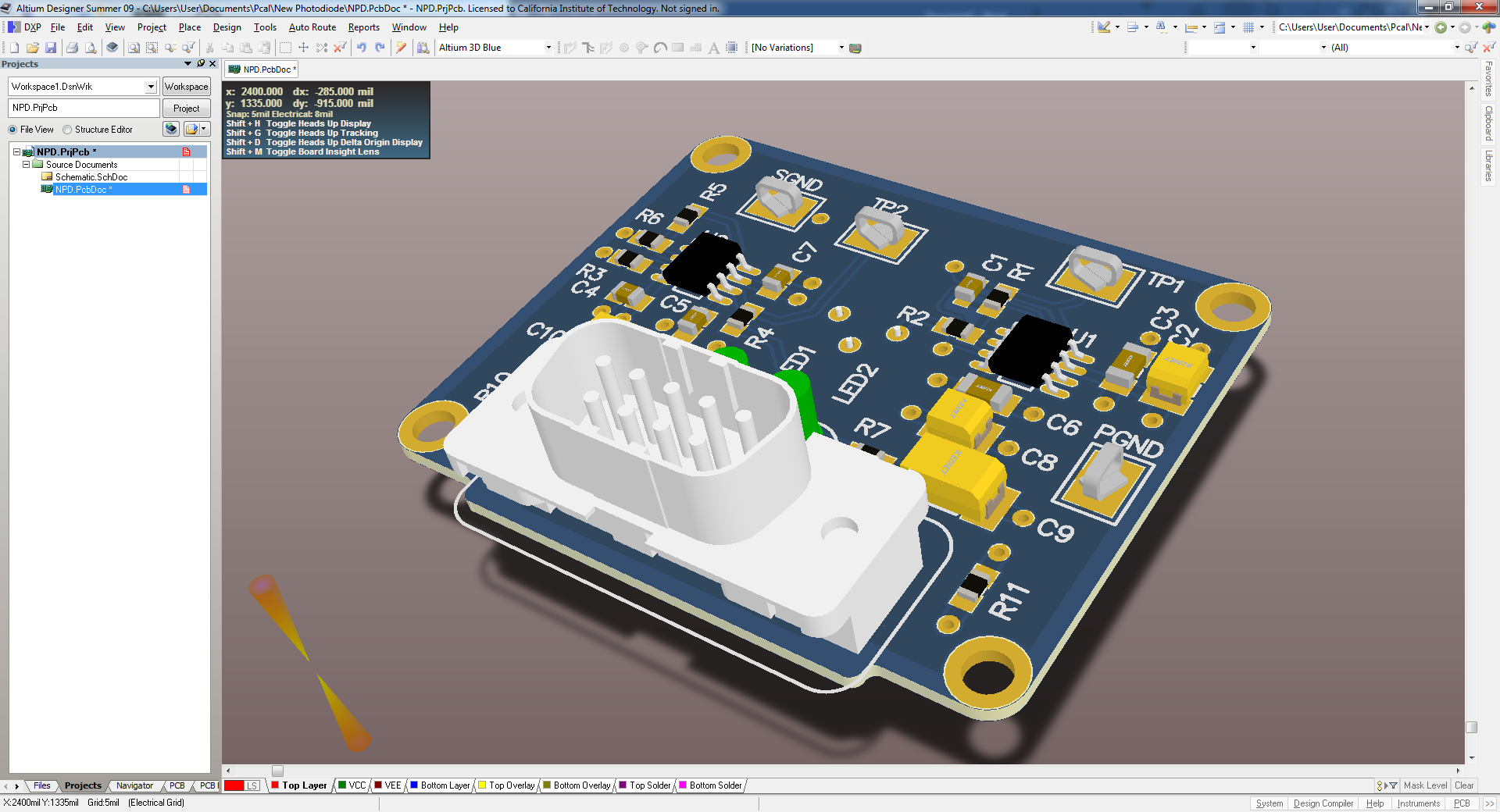


Figure . Oblique view of the top side.

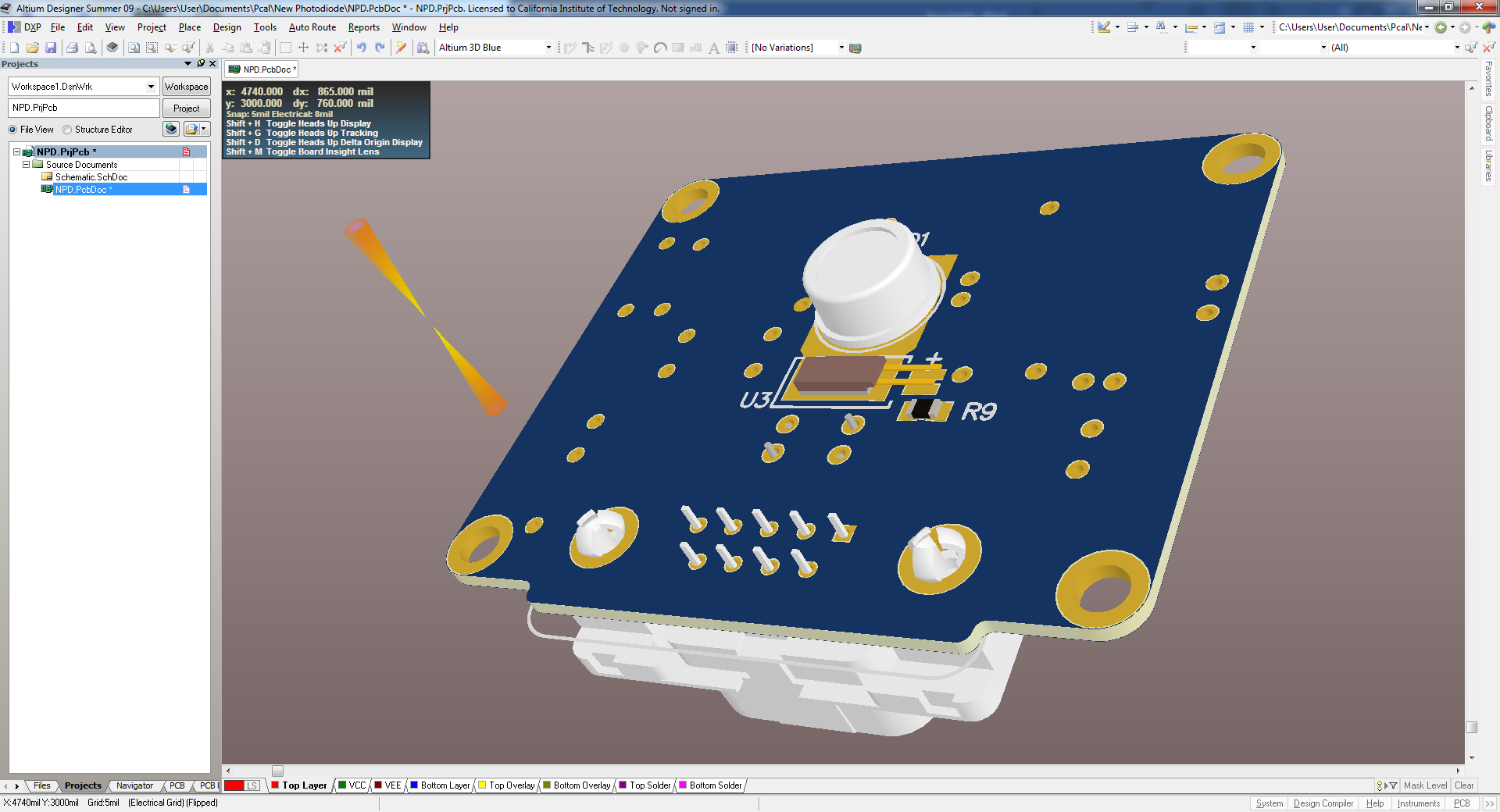


Figure . Oblique view of the bottom side.

## Board dimensions

Figure 7 shows the dimensions of the board, which might save some time if another version of the board is done.

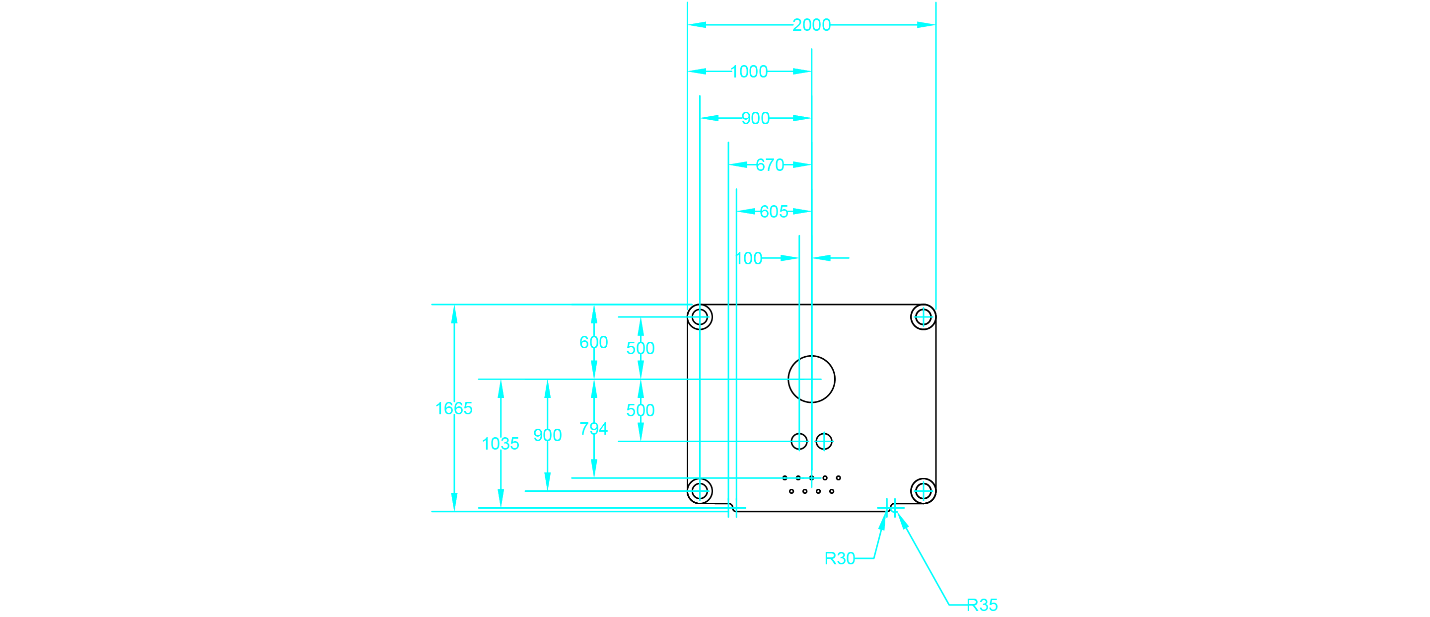


Figure . The board dimensions with the center of the photodiode as the reference point.