

MEMS Introduction

Design Assignment – SUMMiT V

The Simple Cantilever

Goals:

- To become familiar with the SUMMiT V software
- To take a design from concept (paper) to a layered CAD Layout
- To make the cantilever size as specified

Procedure:

- **Re-Create the following simple cantilever structure in AutoCAD/SUMMiT V.**
 - Lay out a simple cantilever beam. One end of the structure is anchored.
 - Use MMPOLY0 for the Actuators and leads to the bond pads as shown in Figure 3
 - Add your name using the text tool.
 - Use MMPOLY2 for the (red) cantilever
 - Make sure you provide ample size opening for the SaxOx1_cut mask
 - To connect the MMPOLY0 and MMPOLY2 structural layers
- Control the potential (voltage) of the following:
 - “Actuator” plane under MMpoly2
- Include your name using the txt tool.

Include in your .doc report:

- Save your *.dwg file: Name_Cantilever.dwg
- Submit (attach) the dwg file when turning your assignment in.

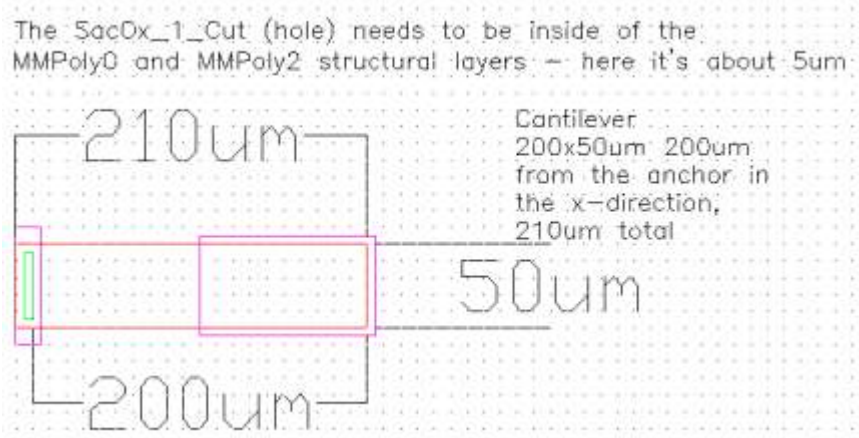


Figure 1 Note the dimensions carefully. This is a simple cantilever. The width is 50um, the length as measured, is a total of 200um (from the base of the anchor to the edge). The actuator pad can be wider than the cantilever.

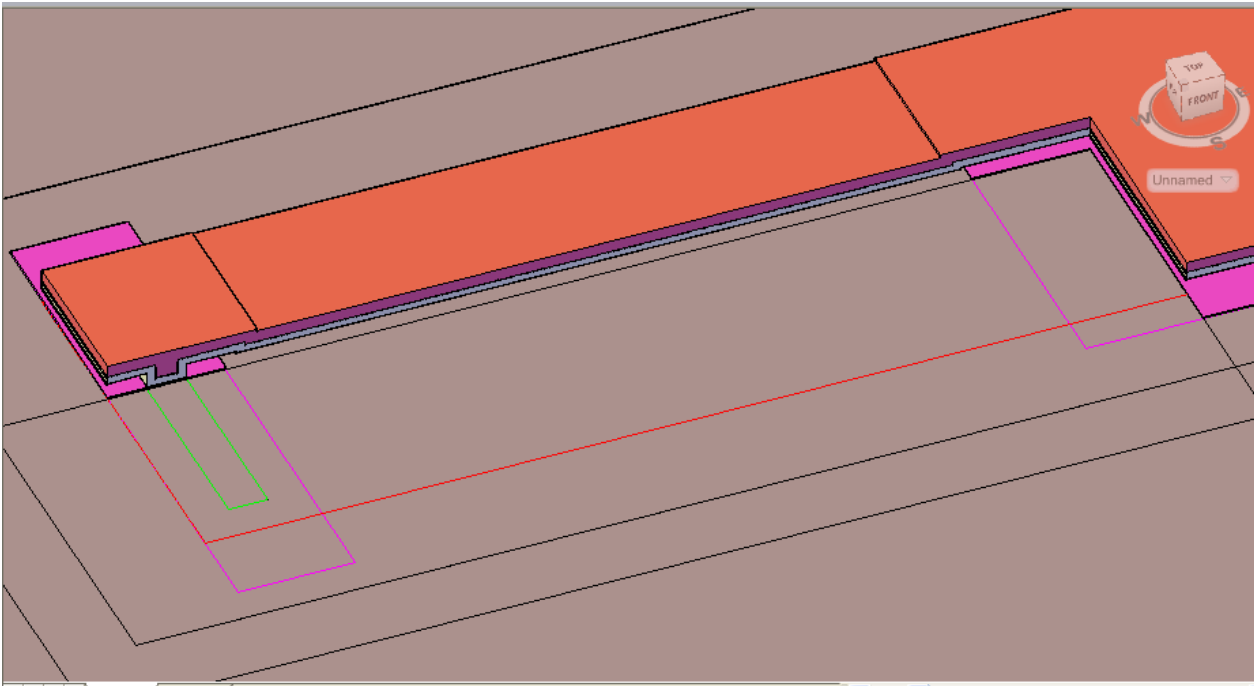


Figure 2 3D cut Model

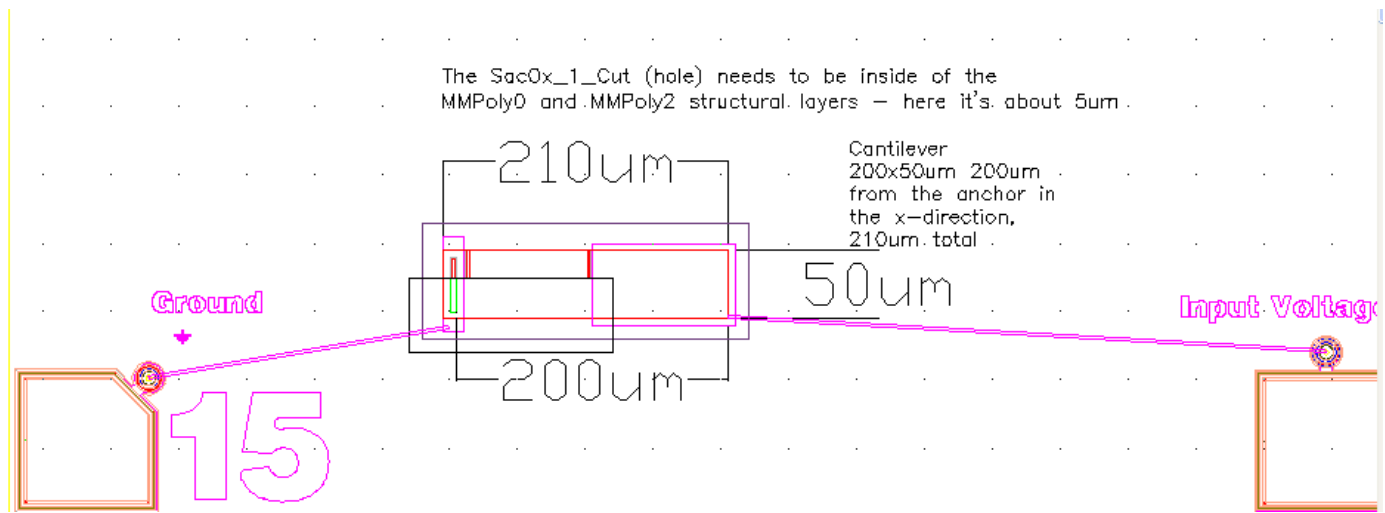


Figure 3 Showing the leads to ground in Vin