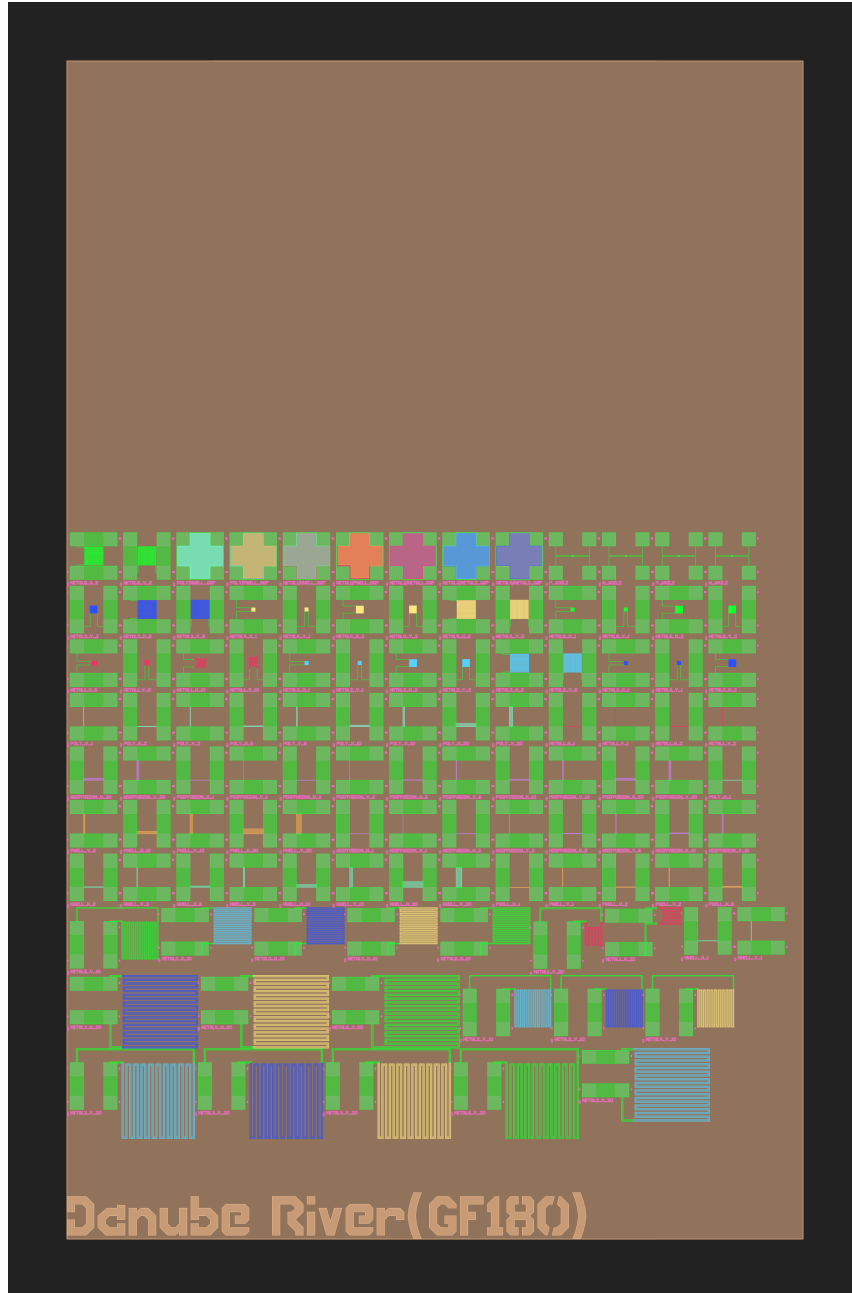


Danube River Test Waver

by LibreSilicon

January 31, 2023

This is the automatically generated documentation and guide line for the test structures in the GDSII file, generated by this script, for the wafer titled Danube River(GF180)



The below structures have been generated assuming basic flags and settings for the pad and size from "configs/gf180.cfg" for characterizing the process "GF180" (which can be found in librepd/technologies). Those values need to be verified by checking under the microscope, whether the defects have gone away and measuring what the difference between predicted values and measured values is

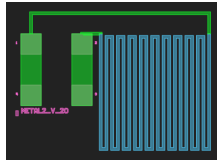
1 Resistors

All the resistor structures for the various available layers, as defined in the configuration are being shown below. They are being measured with a 4 probe station, by applying a constant current over two of the probes, and then measuring the voltage over the other two.

This is called a Kelvin structure.

1.1 Layer: metal2

1.1.1 Structure: METAL2_V_20



The target value of this resistor is 100Ω

Recommended measurement current is 25uA

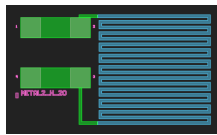
Expected measured voltage is 2.5mV

The X/Y-coordinates are: X=0,Y=0

The current from the current source should go from pad 3 towards pad 4

The voltage over the resistor should be measured over pad 2 and pad 1

1.1.2 Structure: METAL2_H_20



The target value of this resistor is 100Ω

Recommended measurement current is 25uA

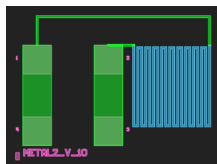
Expected measured voltage is 2.5mV

The X/Y-coordinates are: X=1529600,Y=51720

The current from the current source should go from pad 1 towards pad 4

The voltage over the resistor should be measured over pad 2 and pad 3

1.1.3 Structure: METAL2_V_10



The target value of this resistor is 100Ω

Recommended measurement current is 25uA

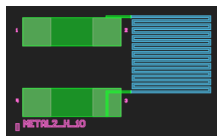
Expected measured voltage is 2.5mV

The X/Y-coordinates are: X=1173720,Y=287120

The current from the current source should go from pad 3 towards pad 4

The voltage over the resistor should be measured over pad 2 and pad 1

1.1.4 Structure: METAL2_H_10



The target value of this resistor is 100Ω

Recommended measurement current is 25uA

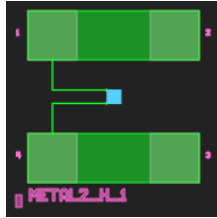
Expected measured voltage is 2.5mV

The X/Y-coordinates are: X=273200,Y=528020

The current from the current source should go from pad 1 towards pad 4

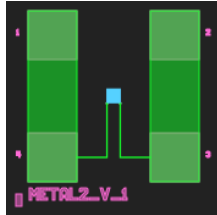
The voltage over the resistor should be measured over pad 2 and pad 3

1.1.5 Structure: METAL2_H_1



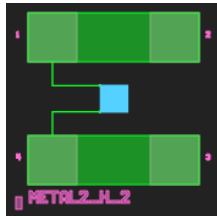
The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=636000, Y=1330820$
The current from the current source should go from pad 1 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 3

1.1.6 Structure: METAL2_V_1



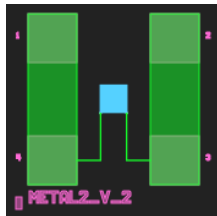
The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=795000, Y=1330820$
The current from the current source should go from pad 3 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 1

1.1.7 Structure: METAL2_H_2



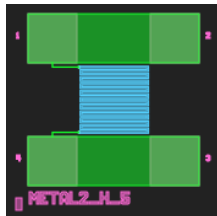
The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=954000, Y=1330820$
The current from the current source should go from pad 1 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 3

1.1.8 Structure: METAL2_V_2



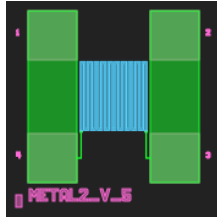
The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=1113000, Y=1330820$
The current from the current source should go from pad 3 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 1

1.1.9 Structure: METAL2_H_5



The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=1272000, Y=1330820$
The current from the current source should go from pad 1 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 3

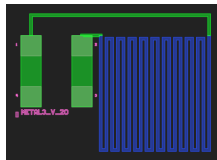
1.1.10 Structure: METAL2_V_5



The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=1431000, Y=1330820$
The current from the current source should go from pad 3 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 1

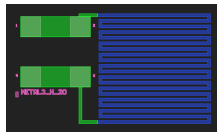
1.2 Layer: metal3

1.2.1 Structure: METAL3_V_20



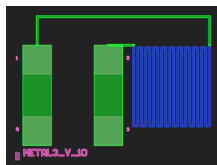
The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=382400, Y=0$
The current from the current source should go from pad 3 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 1

1.2.2 Structure: METAL3_H_20



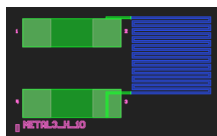
The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=0, Y=270120$
The current from the current source should go from pad 1 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 3

1.2.3 Structure: METAL3_V_10



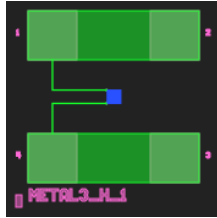
The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=1446920, Y=287120$
The current from the current source should go from pad 3 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 1

1.2.4 Structure: METAL3_H_10



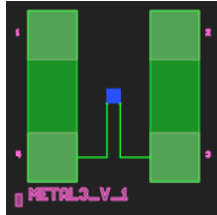
The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=551120, Y=528020$
The current from the current source should go from pad 1 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 3

1.2.5 Structure: METAL3_H_1



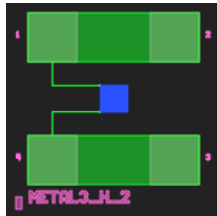
The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=1590000, Y=1330820$
The current from the current source should go from pad 1 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 3

1.2.6 Structure: METAL3_V_1



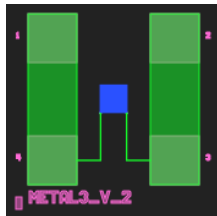
The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=1749000, Y=1330820$
The current from the current source should go from pad 3 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 1

1.2.7 Structure: METAL3_H_2



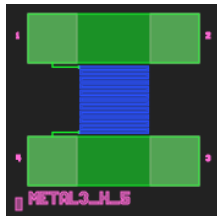
The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=1908000, Y=1330820$
The current from the current source should go from pad 1 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 3

1.2.8 Structure: METAL3_V_2



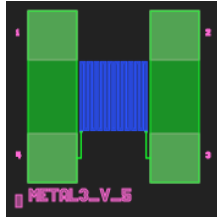
The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=0, Y=1490820$
The current from the current source should go from pad 3 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 1

1.2.9 Structure: METAL3_H_5



The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=159000, Y=1490820$
The current from the current source should go from pad 1 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 3

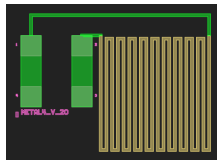
1.2.10 Structure: METAL3_V_5



The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=318000, Y=1490820$
The current from the current source should go from pad 3 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 1

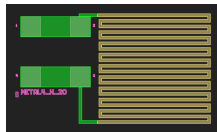
1.3 Layer: metal4

1.3.1 Structure: METAL4_V_20



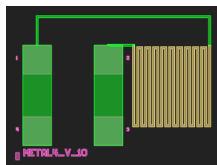
The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=764800, Y=0$
The current from the current source should go from pad 3 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 1

1.3.2 Structure: METAL4_H_20



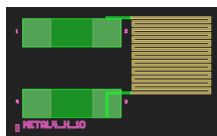
The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=391320, Y=270120$
The current from the current source should go from pad 1 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 3

1.3.3 Structure: METAL4_V_10



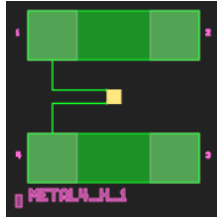
The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=1720120, Y=287120$
The current from the current source should go from pad 3 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 1

1.3.4 Structure: METAL4_H_10



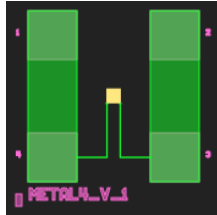
The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=829040, Y=528020$
The current from the current source should go from pad 1 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 3

1.3.5 Structure: METAL4_H_1



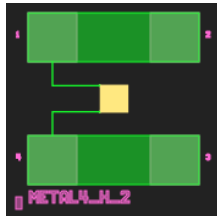
The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=477000, Y=1490820$
The current from the current source should go from pad 1 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 3

1.3.6 Structure: METAL4_V_1



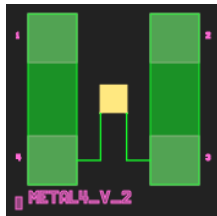
The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=636000, Y=1490820$
The current from the current source should go from pad 3 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 1

1.3.7 Structure: METAL4_H_2



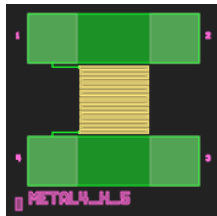
The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=795000, Y=1490820$
The current from the current source should go from pad 1 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 3

1.3.8 Structure: METAL4_V_2



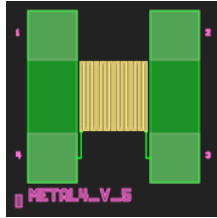
The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=954000, Y=1490820$
The current from the current source should go from pad 3 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 1

1.3.9 Structure: METAL4_H_5



The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=1113000, Y=1490820$
The current from the current source should go from pad 1 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 3

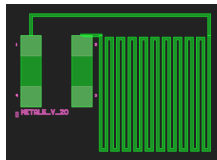
1.3.10 Structure: METAL4_V_5



The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=1272000, Y=1490820$
The current from the current source should go from pad 3 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 1

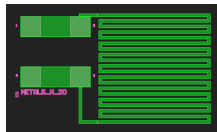
1.4 Layer: metal5

1.4.1 Structure: METAL5_V_20



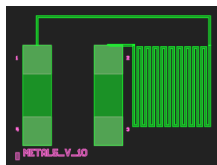
The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=1147200, Y=240$
The current from the current source should go from pad 3 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 1

1.4.2 Structure: METAL5_H_20



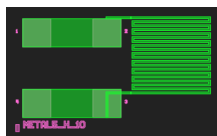
The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=782640, Y=270120$
The current from the current source should go from pad 1 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 3

1.4.3 Structure: METAL5_V_10



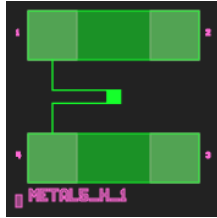
The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=0, Y=489420$
The current from the current source should go from pad 3 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 1

1.4.4 Structure: METAL5_H_10



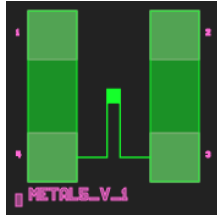
The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=1106960, Y=528020$
The current from the current source should go from pad 1 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 3

1.4.5 Structure: METAL5_H_1



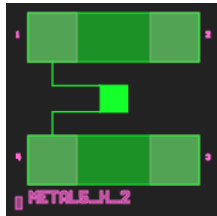
The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=1431000, Y=1490820$
The current from the current source should go from pad 1 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 3

1.4.6 Structure: METAL5_V_1



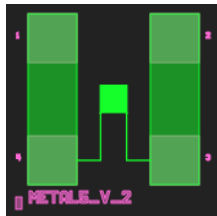
The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=1590000, Y=1490820$
The current from the current source should go from pad 3 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 1

1.4.7 Structure: METAL5_H_2



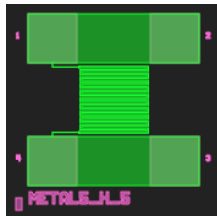
The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=1749000, Y=1490820$
The current from the current source should go from pad 1 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 3

1.4.8 Structure: METAL5_V_2



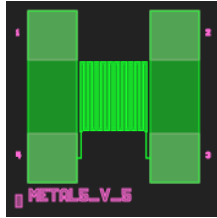
The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=1908000, Y=1490820$
The current from the current source should go from pad 3 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 1

1.4.9 Structure: METAL5_H_5



The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=0, Y=1650820$
The current from the current source should go from pad 1 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 3

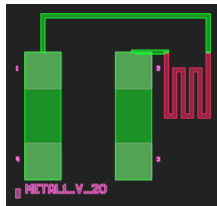
1.4.10 Structure: METAL5_V_5



The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=159000, Y=1650820$
The current from the current source should go from pad 3 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 1

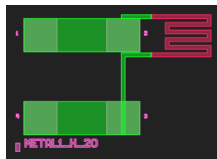
1.5 Layer: metal1

1.5.1 Structure: METAL1_V_20



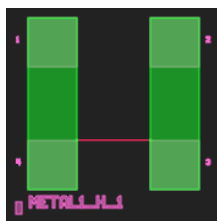
The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=1384640, Y=488520$
The current from the current source should go from pad 3 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 1

1.5.2 Structure: METAL1_H_20



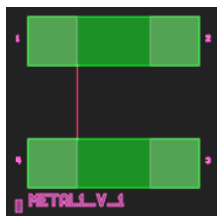
The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=1599240, Y=526220$
The current from the current source should go from pad 1 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 3

1.5.3 Structure: METAL1_H_1



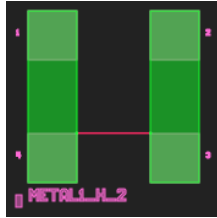
The target value of this resistor is 334.0Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 8.35mV
The X/Y-coordinates are: $X=1431000, Y=1170820$
The current from the current source should go from pad 1 towards pad 2
The voltage over the resistor should be measured over pad 4 and pad 3

1.5.4 Structure: METAL1_V_1



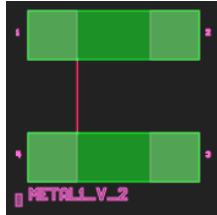
The target value of this resistor is 334.0Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 8.35mV
The X/Y-coordinates are: $X=1590000, Y=1170820$
The current from the current source should go from pad 2 towards pad 3
The voltage over the resistor should be measured over pad 1 and pad 4

1.5.5 Structure: METAL1_H_2



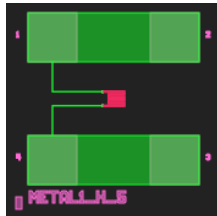
The target value of this resistor is 167.0Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 4.175mV
The X/Y-coordinates are: $X=1749000, Y=1170820$
The current from the current source should go from pad 1 towards pad 2
The voltage over the resistor should be measured over pad 4 and pad 3

1.5.6 Structure: METAL1_V_2



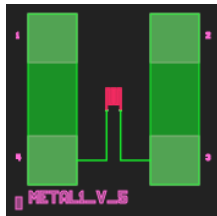
The target value of this resistor is 167.0Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 4.175mV
The X/Y-coordinates are: $X=1908000, Y=1170820$
The current from the current source should go from pad 2 towards pad 3
The voltage over the resistor should be measured over pad 1 and pad 4

1.5.7 Structure: METAL1_H_5



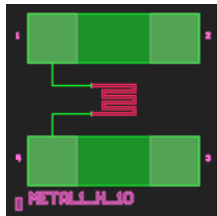
The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=0, Y=1330820$
The current from the current source should go from pad 1 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 3

1.5.8 Structure: METAL1_V_5



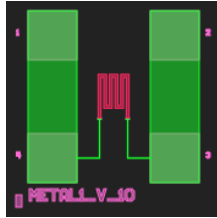
The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=159000, Y=1330820$
The current from the current source should go from pad 3 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 1

1.5.9 Structure: METAL1_H_10



The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=318000, Y=1330820$
The current from the current source should go from pad 1 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 3

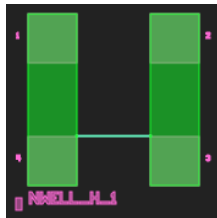
1.5.10 Structure: METAL1_V_10



The target value of this resistor is 100Ω
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 2.5mV
The X/Y-coordinates are: $X=477000, Y=1330820$
The current from the current source should go from pad 3 towards pad 4
The voltage over the resistor should be measured over pad 2 and pad 1

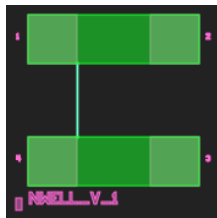
1.6 Layer: nwell

1.6.1 Structure: NWELL_H_1



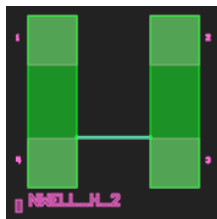
The target value of this resistor is $69.767k\Omega$
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 1.7442V
The X/Y-coordinates are: $X=1835485, Y=530820$
The current from the current source should go from pad 1 towards pad 2
The voltage over the resistor should be measured over pad 4 and pad 3

1.6.2 Structure: NWELL_V_1



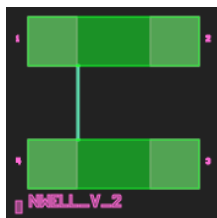
The target value of this resistor is $69.767k\Omega$
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 1.7442V
The X/Y-coordinates are: $X=1994485, Y=530820$
The current from the current source should go from pad 2 towards pad 3
The voltage over the resistor should be measured over pad 1 and pad 4

1.6.3 Structure: NWELL_H_2



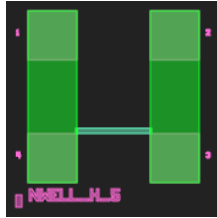
The target value of this resistor is $34.884k\Omega$
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 872.1mV
The X/Y-coordinates are: $X=0, Y=690820$
The current from the current source should go from pad 1 towards pad 2
The voltage over the resistor should be measured over pad 4 and pad 3

1.6.4 Structure: NWELL_V_2



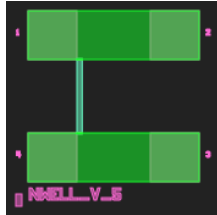
The target value of this resistor is $34.884k\Omega$
Recommended measurement current is $25\mu\text{A}$
Expected measured voltage is 872.1mV
The X/Y-coordinates are: $X=159000, Y=690820$
The current from the current source should go from pad 2 towards pad 3
The voltage over the resistor should be measured over pad 1 and pad 4

1.6.5 Structure: NWELL_H_5



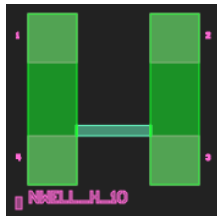
The target value of this resistor is $13.953k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $348.825mV$
The X/Y-coordinates are: X=318000,Y=690820
The current from the current source should go from pad 1 towards pad 2
The voltage over the resistor should be measured over pad 4 and pad 3

1.6.6 Structure: NWELL_V_5



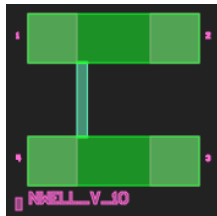
The target value of this resistor is $13.953k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $348.825mV$
The X/Y-coordinates are: X=477000,Y=690820
The current from the current source should go from pad 2 towards pad 3
The voltage over the resistor should be measured over pad 1 and pad 4

1.6.7 Structure: NWELL_H_10



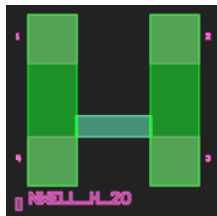
The target value of this resistor is $6.977k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $174.425mV$
The X/Y-coordinates are: X=636000,Y=690820
The current from the current source should go from pad 1 towards pad 2
The voltage over the resistor should be measured over pad 4 and pad 3

1.6.8 Structure: NWELL_V_10



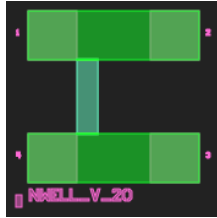
The target value of this resistor is $6.977k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $174.425mV$
The X/Y-coordinates are: X=795000,Y=690820
The current from the current source should go from pad 2 towards pad 3
The voltage over the resistor should be measured over pad 1 and pad 4

1.6.9 Structure: NWELL_H_20



The target value of this resistor is $3.488k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $87.2mV$
The X/Y-coordinates are: X=954000,Y=690820
The current from the current source should go from pad 1 towards pad 2
The voltage over the resistor should be measured over pad 4 and pad 3

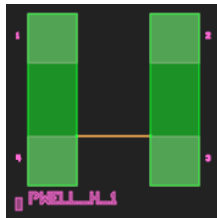
1.6.10 Structure: NWELL_V_20



The target value of this resistor is $3.488k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $87.2mV$
The X/Y-coordinates are: X=1113000,Y=690820
The current from the current source should go from pad 2 towards pad 3
The voltage over the resistor should be measured over pad 1 and pad 4

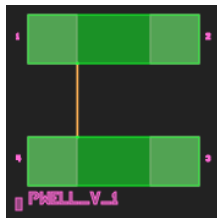
1.7 Layer: pwell

1.7.1 Structure: PWELL_H_1



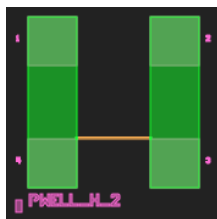
The target value of this resistor is $81.081k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $2.027V$
The X/Y-coordinates are: X=1272000,Y=690820
The current from the current source should go from pad 1 towards pad 2
The voltage over the resistor should be measured over pad 4 and pad 3

1.7.2 Structure: PWELL_V_1



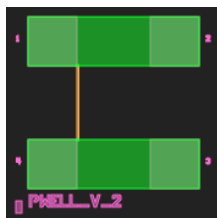
The target value of this resistor is $81.081k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $2.027V$
The X/Y-coordinates are: X=1431000,Y=690820
The current from the current source should go from pad 2 towards pad 3
The voltage over the resistor should be measured over pad 1 and pad 4

1.7.3 Structure: PWELL_H_2



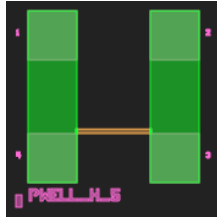
The target value of this resistor is $40.541k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $1.0135V$
The X/Y-coordinates are: X=1590000,Y=690820
The current from the current source should go from pad 1 towards pad 2
The voltage over the resistor should be measured over pad 4 and pad 3

1.7.4 Structure: PWELL_V_2



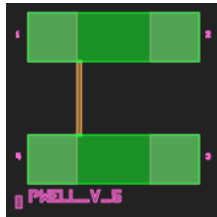
The target value of this resistor is $40.541k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $1.0135V$
The X/Y-coordinates are: X=1749000,Y=690820
The current from the current source should go from pad 2 towards pad 3
The voltage over the resistor should be measured over pad 1 and pad 4

1.7.5 Structure: PWELL_H_5



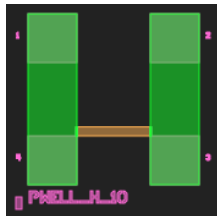
The target value of this resistor is $16.216k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $405.4mV$
The X/Y-coordinates are: $X=1908000, Y=690820$
The current from the current source should go from pad 1 towards pad 2
The voltage over the resistor should be measured over pad 4 and pad 3

1.7.6 Structure: PWELL_V_5



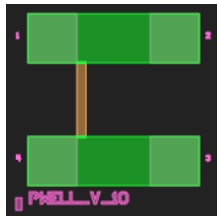
The target value of this resistor is $16.216k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $405.4mV$
The X/Y-coordinates are: $X=0, Y=850820$
The current from the current source should go from pad 2 towards pad 3
The voltage over the resistor should be measured over pad 1 and pad 4

1.7.7 Structure: PWELL_H_10



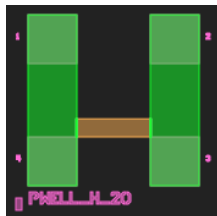
The target value of this resistor is $8.108k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $202.7mV$
The X/Y-coordinates are: $X=159000, Y=850820$
The current from the current source should go from pad 1 towards pad 2
The voltage over the resistor should be measured over pad 4 and pad 3

1.7.8 Structure: PWELL_V_10



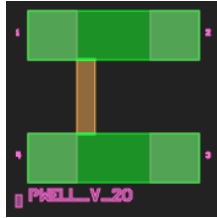
The target value of this resistor is $8.108k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $202.7mV$
The X/Y-coordinates are: $X=318000, Y=850820$
The current from the current source should go from pad 2 towards pad 3
The voltage over the resistor should be measured over pad 1 and pad 4

1.7.9 Structure: PWELL_H_20



The target value of this resistor is $4.054k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $101.35mV$
The X/Y-coordinates are: $X=477000, Y=850820$
The current from the current source should go from pad 1 towards pad 2
The voltage over the resistor should be measured over pad 4 and pad 3

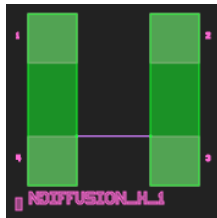
1.7.10 Structure: PWELL_V_20



The target value of this resistor is $4.054k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $101.35mV$
The X/Y-coordinates are: X=636000,Y=850820
The current from the current source should go from pad 2 towards pad 3
The voltage over the resistor should be measured over pad 1 and pad 4

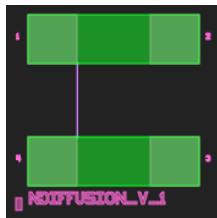
1.8 Layer: ndiffusion

1.8.1 Structure: NDIFFUSION_H_1



The target value of this resistor is $24.0k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $600.0mV$
The X/Y-coordinates are: X=795000,Y=850820
The current from the current source should go from pad 1 towards pad 2
The voltage over the resistor should be measured over pad 4 and pad 3

1.8.2 Structure: NDIFFUSION_V_1



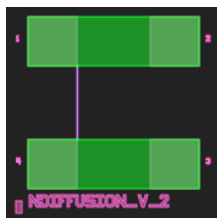
The target value of this resistor is $24.0k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $600.0mV$
The X/Y-coordinates are: X=954000,Y=850820
The current from the current source should go from pad 2 towards pad 3
The voltage over the resistor should be measured over pad 1 and pad 4

1.8.3 Structure: NDIFFUSION_H_2



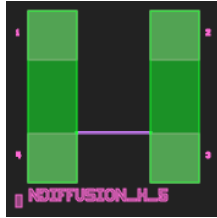
The target value of this resistor is $12.0k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $300.0mV$
The X/Y-coordinates are: X=1113000,Y=850820
The current from the current source should go from pad 1 towards pad 2
The voltage over the resistor should be measured over pad 4 and pad 3

1.8.4 Structure: NDIFFUSION_V_2



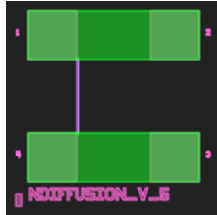
The target value of this resistor is $12.0k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $300.0mV$
The X/Y-coordinates are: X=1272000,Y=850820
The current from the current source should go from pad 2 towards pad 3
The voltage over the resistor should be measured over pad 1 and pad 4

1.8.5 Structure: NDIFFUSION_H_5



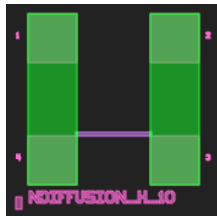
The target value of this resistor is $4.8k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $120.0mV$
The X/Y-coordinates are: $X=1431000, Y=850820$
The current from the current source should go from pad 1 towards pad 2
The voltage over the resistor should be measured over pad 4 and pad 3

1.8.6 Structure: NDIFFUSION_V_5



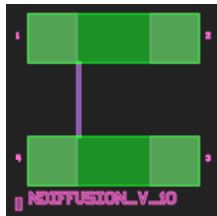
The target value of this resistor is $4.8k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $120.0mV$
The X/Y-coordinates are: $X=1590000, Y=850820$
The current from the current source should go from pad 2 towards pad 3
The voltage over the resistor should be measured over pad 1 and pad 4

1.8.7 Structure: NDIFFUSION_H_10



The target value of this resistor is $2.4k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $60.0mV$
The X/Y-coordinates are: $X=1749000, Y=850820$
The current from the current source should go from pad 1 towards pad 2
The voltage over the resistor should be measured over pad 4 and pad 3

1.8.8 Structure: NDIFFUSION_V_10



The target value of this resistor is $2.4k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $60.0mV$
The X/Y-coordinates are: $X=1908000, Y=850820$
The current from the current source should go from pad 2 towards pad 3
The voltage over the resistor should be measured over pad 1 and pad 4

1.8.9 Structure: NDIFFUSION_H_20



The target value of this resistor is $1.2k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $30.0mV$
The X/Y-coordinates are: $X=0, Y=1010820$
The current from the current source should go from pad 1 towards pad 2
The voltage over the resistor should be measured over pad 4 and pad 3

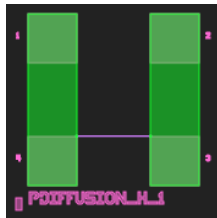
1.8.10 Structure: NDIFFUSION_V_20



The target value of this resistor is $1.2k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $30.0mV$
The X/Y-coordinates are: X=159000,Y=1010820
The current from the current source should go from pad 2 towards pad 3
The voltage over the resistor should be measured over pad 1 and pad 4

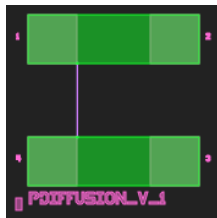
1.9 Layer: pdiffusion

1.9.1 Structure: PDIFFUSION_H_1



The target value of this resistor is $39.4k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $985.0mV$
The X/Y-coordinates are: X=318000,Y=1010820
The current from the current source should go from pad 1 towards pad 2
The voltage over the resistor should be measured over pad 4 and pad 3

1.9.2 Structure: PDIFFUSION_V_1



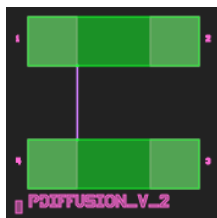
The target value of this resistor is $39.4k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $985.0mV$
The X/Y-coordinates are: X=477000,Y=1010820
The current from the current source should go from pad 2 towards pad 3
The voltage over the resistor should be measured over pad 1 and pad 4

1.9.3 Structure: PDIFFUSION_H_2



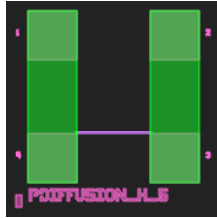
The target value of this resistor is $19.7k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $492.5mV$
The X/Y-coordinates are: X=636000,Y=1010820
The current from the current source should go from pad 1 towards pad 2
The voltage over the resistor should be measured over pad 4 and pad 3

1.9.4 Structure: PDIFFUSION_V_2



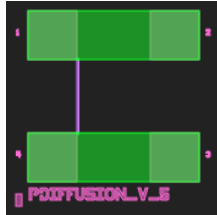
The target value of this resistor is $19.7k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $492.5mV$
The X/Y-coordinates are: X=795000,Y=1010820
The current from the current source should go from pad 2 towards pad 3
The voltage over the resistor should be measured over pad 1 and pad 4

1.9.5 Structure: PDIFFUSION_H_5



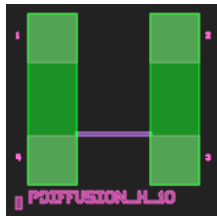
The target value of this resistor is $7.88k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $197.0mV$
The X/Y-coordinates are: $X=954000, Y=1010820$
The current from the current source should go from pad 1 towards pad 2
The voltage over the resistor should be measured over pad 4 and pad 3

1.9.6 Structure: PDIFFUSION_V_5



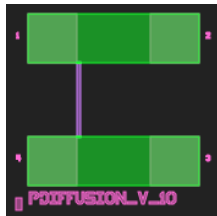
The target value of this resistor is $7.88k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $197.0mV$
The X/Y-coordinates are: $X=1113000, Y=1010820$
The current from the current source should go from pad 2 towards pad 3
The voltage over the resistor should be measured over pad 1 and pad 4

1.9.7 Structure: PDIFFUSION_H_10



The target value of this resistor is $3.94k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $98.5mV$
The X/Y-coordinates are: $X=1272000, Y=1010820$
The current from the current source should go from pad 1 towards pad 2
The voltage over the resistor should be measured over pad 4 and pad 3

1.9.8 Structure: PDIFFUSION_V_10



The target value of this resistor is $3.94k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $98.5mV$
The X/Y-coordinates are: $X=1431000, Y=1010820$
The current from the current source should go from pad 2 towards pad 3
The voltage over the resistor should be measured over pad 1 and pad 4

1.9.9 Structure: PDIFFUSION_H_20



The target value of this resistor is $1.97k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $49.25mV$
The X/Y-coordinates are: $X=1590000, Y=1010820$
The current from the current source should go from pad 1 towards pad 2
The voltage over the resistor should be measured over pad 4 and pad 3

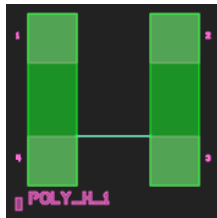
1.9.10 Structure: PDIFFUSION_V_20



The target value of this resistor is $1.97k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $49.25mV$
The X/Y-coordinates are: X=1749000,Y=1010820
The current from the current source should go from pad 2 towards pad 3
The voltage over the resistor should be measured over pad 1 and pad 4

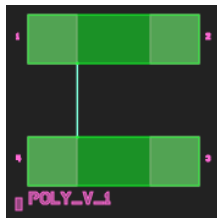
1.10 Layer: poly

1.10.1 Structure: POLY_H_1



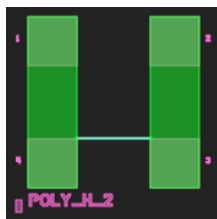
The target value of this resistor is $57.84k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $1.446V$
The X/Y-coordinates are: X=1908000,Y=1010820
The current from the current source should go from pad 1 towards pad 2
The voltage over the resistor should be measured over pad 4 and pad 3

1.10.2 Structure: POLY_V_1



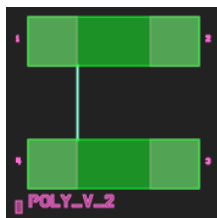
The target value of this resistor is $57.84k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $1.446V$
The X/Y-coordinates are: X=0,Y=1170820
The current from the current source should go from pad 2 towards pad 3
The voltage over the resistor should be measured over pad 1 and pad 4

1.10.3 Structure: POLY_H_2



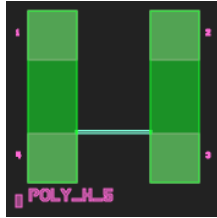
The target value of this resistor is $28.92k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $723.0mV$
The X/Y-coordinates are: X=159000,Y=1170820
The current from the current source should go from pad 1 towards pad 2
The voltage over the resistor should be measured over pad 4 and pad 3

1.10.4 Structure: POLY_V_2



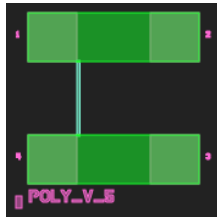
The target value of this resistor is $28.92k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $723.0mV$
The X/Y-coordinates are: X=318000,Y=1170820
The current from the current source should go from pad 2 towards pad 3
The voltage over the resistor should be measured over pad 1 and pad 4

1.10.5 Structure: POLY_H_5



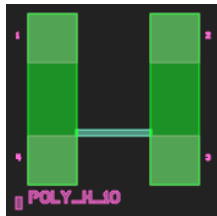
The target value of this resistor is $11.568k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $289.2mV$
The X/Y-coordinates are: X=477000,Y=1170820
The current from the current source should go from pad 1 towards pad 2
The voltage over the resistor should be measured over pad 4 and pad 3

1.10.6 Structure: POLY_V_5



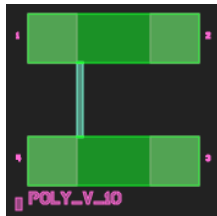
The target value of this resistor is $11.568k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $289.2mV$
The X/Y-coordinates are: X=636000,Y=1170820
The current from the current source should go from pad 2 towards pad 3
The voltage over the resistor should be measured over pad 1 and pad 4

1.10.7 Structure: POLY_H_10



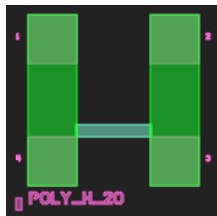
The target value of this resistor is $5.784k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $144.6mV$
The X/Y-coordinates are: X=795000,Y=1170820
The current from the current source should go from pad 1 towards pad 2
The voltage over the resistor should be measured over pad 4 and pad 3

1.10.8 Structure: POLY_V_10



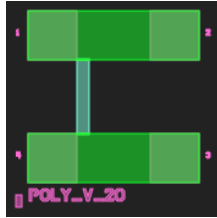
The target value of this resistor is $5.784k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $144.6mV$
The X/Y-coordinates are: X=954000,Y=1170820
The current from the current source should go from pad 2 towards pad 3
The voltage over the resistor should be measured over pad 1 and pad 4

1.10.9 Structure: POLY_H_20



The target value of this resistor is $2.892k\Omega$
Recommended measurement current is $25\mu A$
Expected measured voltage is $72.3mV$
The X/Y-coordinates are: X=1113000,Y=1170820
The current from the current source should go from pad 1 towards pad 2
The voltage over the resistor should be measured over pad 4 and pad 3

1.10.10 Structure: POLY_V_20



The target value of this resistor is $2.892k\Omega$

Recommended measurement current is 25uA

Expected measured voltage is 72.3mV

The X/Y-coordinates are: X=1272000,Y=1170820

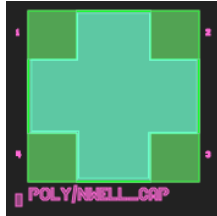
The current from the current source should go from pad 2 towards pad 3

The voltage over the resistor should be measured over pad 1 and pad 4

2 Capacitors

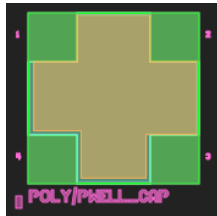
All the capacitors structures for the various available layer pairs, as defined in the configuration are being shown below. They are being measured with a 4 probe station, by applying an alternating current over two of the probes. This way the AC voltage can be measured and from that the capacity can be calculated. This is called a Kelvin structure.

2.1 Capacitor POLY/NWELL_CAP



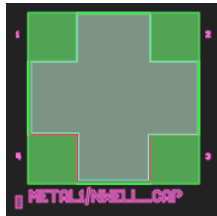
The X/Y-coordinates are: X=318000,Y=1650820

2.2 Capacitor POLY/PWELL_CAP



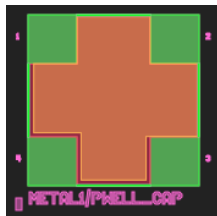
The X/Y-coordinates are: X=477000,Y=1650820

2.3 Capacitor METAL1/NWELL_CAP



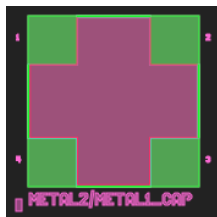
The X/Y-coordinates are: X=636000,Y=1650820

2.4 Capacitor METAL1/PWELL_CAP



The X/Y-coordinates are: X=795000,Y=1650820

2.5 Capacitor METAL2/METAL1_CAP



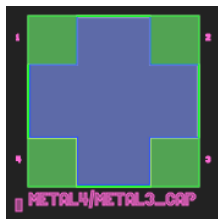
The X/Y-coordinates are: X=954000,Y=1650820

2.6 Capacitor METAL3/METAL2_CAP



The X/Y-coordinates are: X=1113000,Y=1650820

2.7 Capacitor METAL4/METAL3_CAP

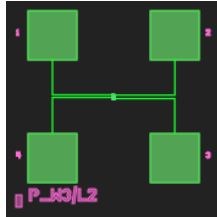


The X/Y-coordinates are: X=1272000,Y=1650820

3 Transistors

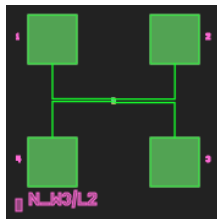
All the transistor structures for the various channel dimensions, as defined in the configuration are being shown below. They are being measured with a 4 probe station. This is called a Kelvin structure.

3.1 Transistor P_W3/L2



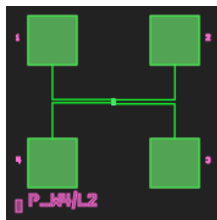
The X/Y-coordinates are: X=1431000,Y=1650820

3.2 Transistor N_W3/L2



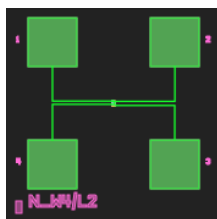
The X/Y-coordinates are: X=1590000,Y=1650820

3.3 Transistor P_W4/L2



The X/Y-coordinates are: X=1749000,Y=1650820

3.4 Transistor N_W4/L2



The X/Y-coordinates are: X=1908000,Y=1650820