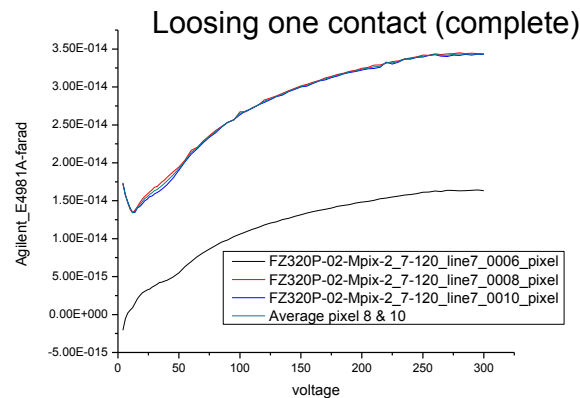
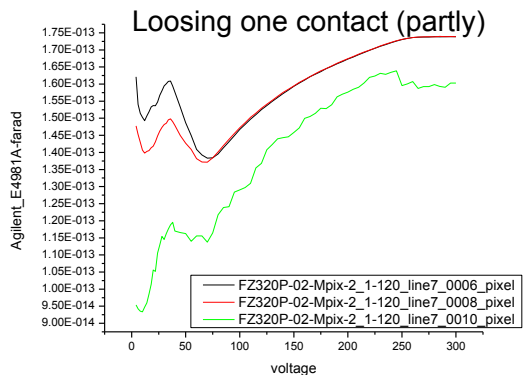
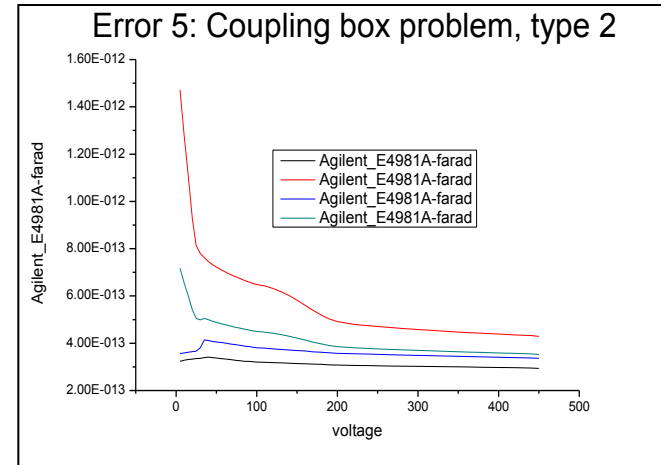


Status of Data analysis

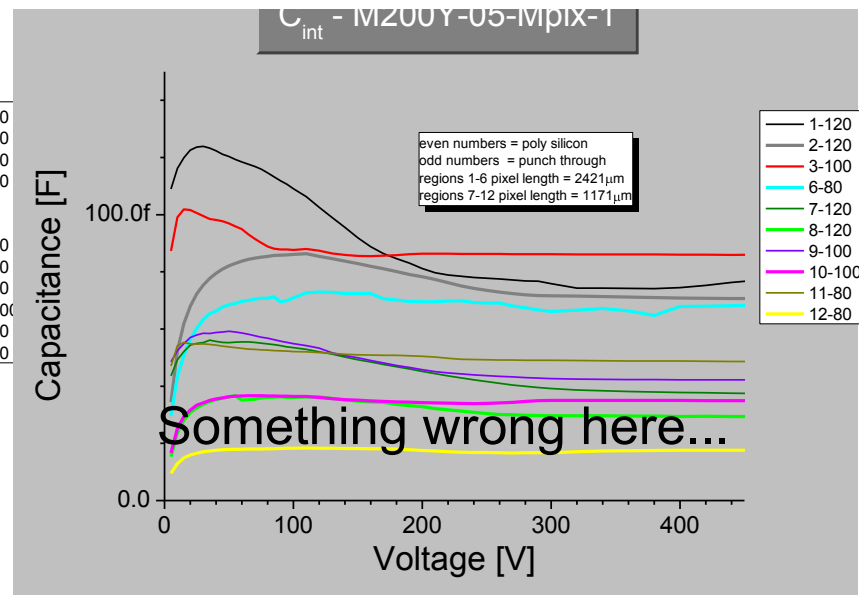
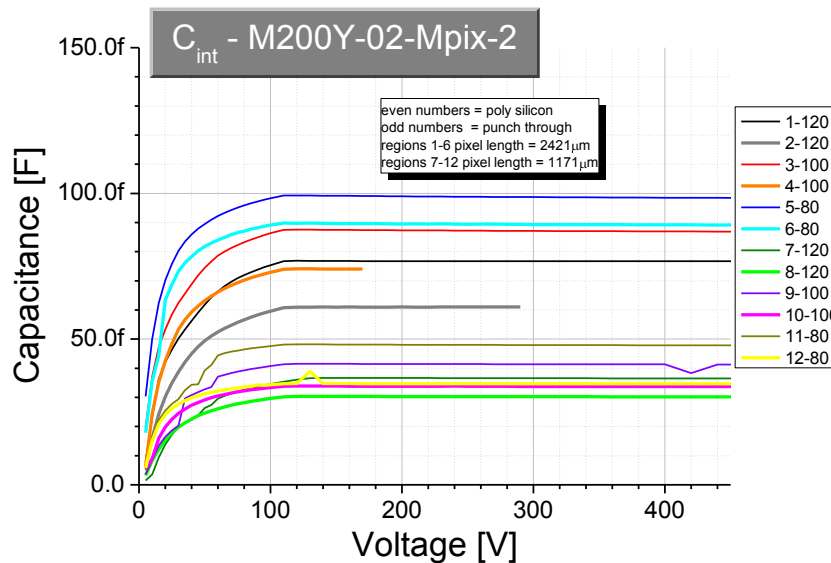
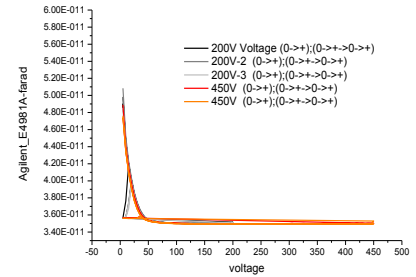
Define Errors

Number	name	Comment
0	None	
1	Other errors	
2	Break through	
3	Contact problems	Use only good ones
4	coupling box problem type1	Use only first measurement
5	coupling box problem type2	Use only first measurement
6	-----	-----
7	Jumps/Spikes/Noise	Use only good ones
8	Not fit to geometry rules	mark as bad
9	Strange values/curve shape	mark as bad
10	Data missing / unusable	mark as bad



How I did this?

- Make a lot of tests
- Compare Samples of same type and check “geometry rules”



Look on every measurement

E50N-07-Mpix-2	CVBias	IVBias	Cint	Rint	Rpoly	PT	Itotal	Ctotal
1	0	0	0	0		10	0	3
2	0	0	0	0	0		0	3
3	0	0	0	0		10	0	3
4	0	0	0	7	0		0	0
5	0	0	0	0		10	0	0
6	0	0	3	7	0		3	0
7	0	0	0	0		10	0	0
8	0	0	0	0	0		0	0
9	0	2	0	0		10	0	0
10	0	0	0	0	0		0	0
11	0	0	0	0		10	0	0
12	0	0	0	0	0		0	0

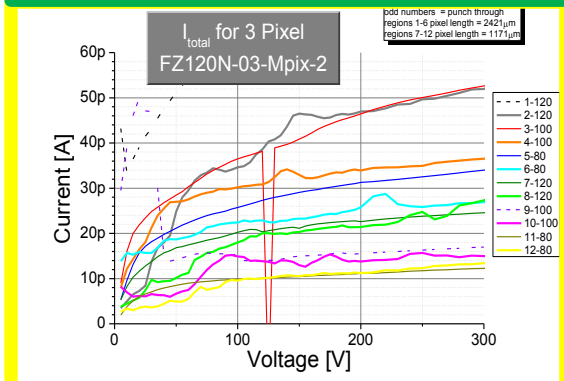
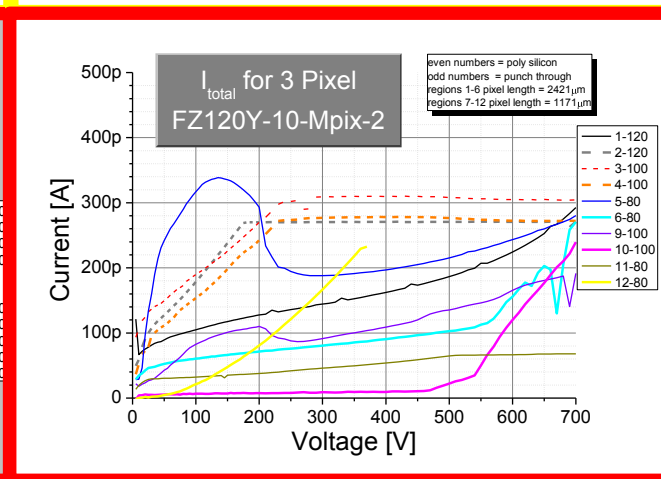
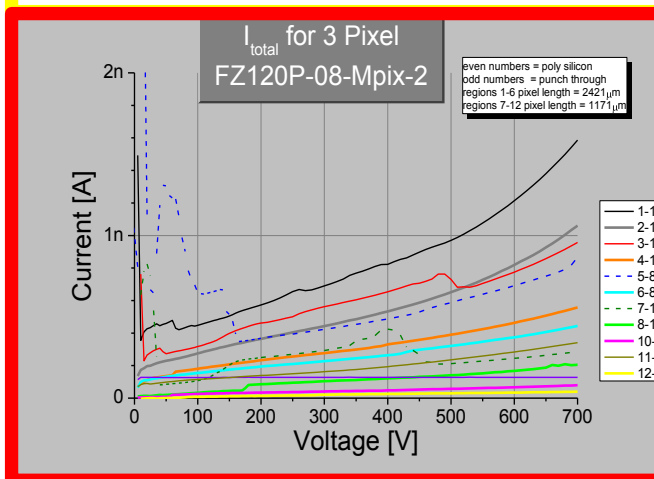
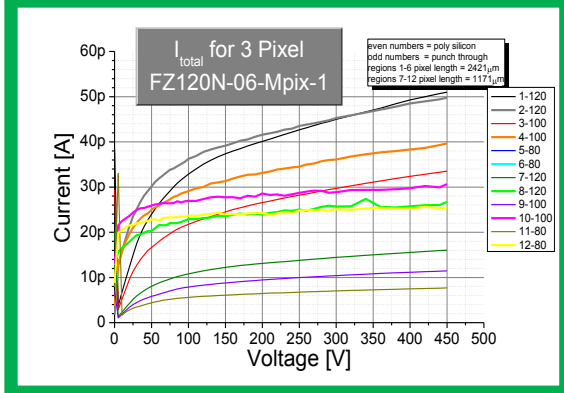
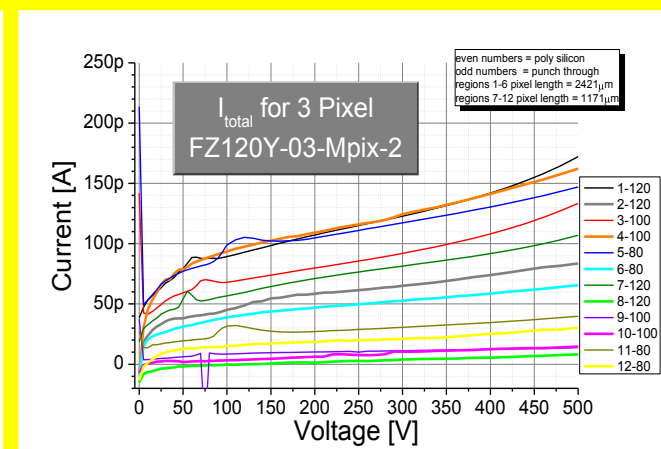
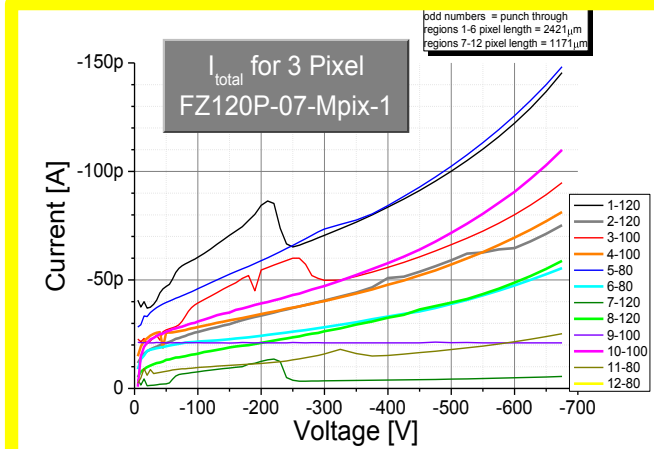
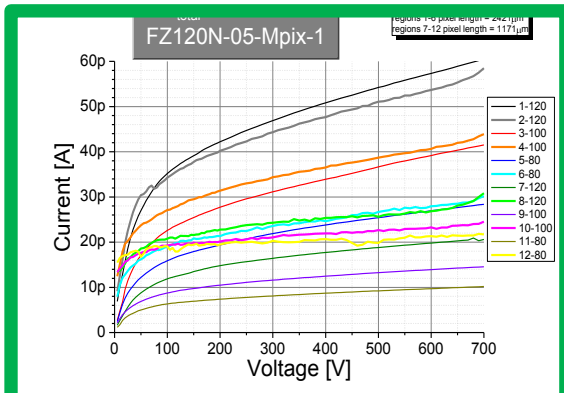
FZ200Y-03-Mpix-2	CVBias	IVBias	Cint	Rint	Rpoly	PT	Itotal	Ctotal
1	0	9	3	10		10	0	8
2	8	9	0	10	0		3	8
3	0	9	3	10		10	0	8
4	8	9	0	10	0		3	8
5	0	9	3	10		10	0	8
6	8	9	0	10	0		3	8
7	0	9	3	10		10	0	8
8	8	9	3	10	0		3	8
9	0	9	0	10		10	0	8
10	8	9	3	10	0		0	8
11	0	9	0	10		10	9	8
12	8	9	10	10	7		0	8

Idea was to find if some regions/sensors have problems with all / one kind of measurement

Outcome is that some measurements looks “good” and some looks “bad” for the same region / measurement kind...
- Also depends who was measured...

Look now for an analysis strategy

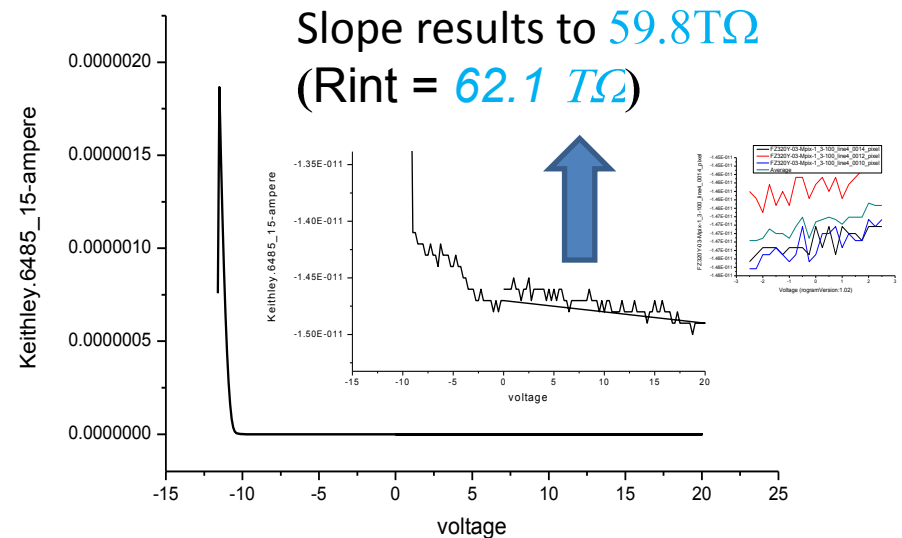
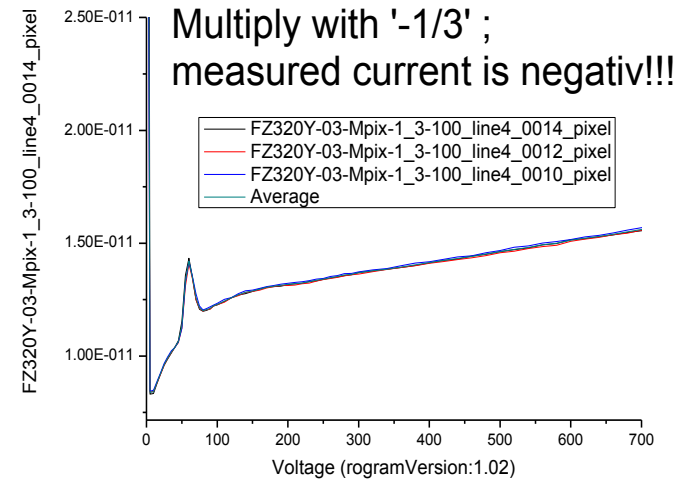
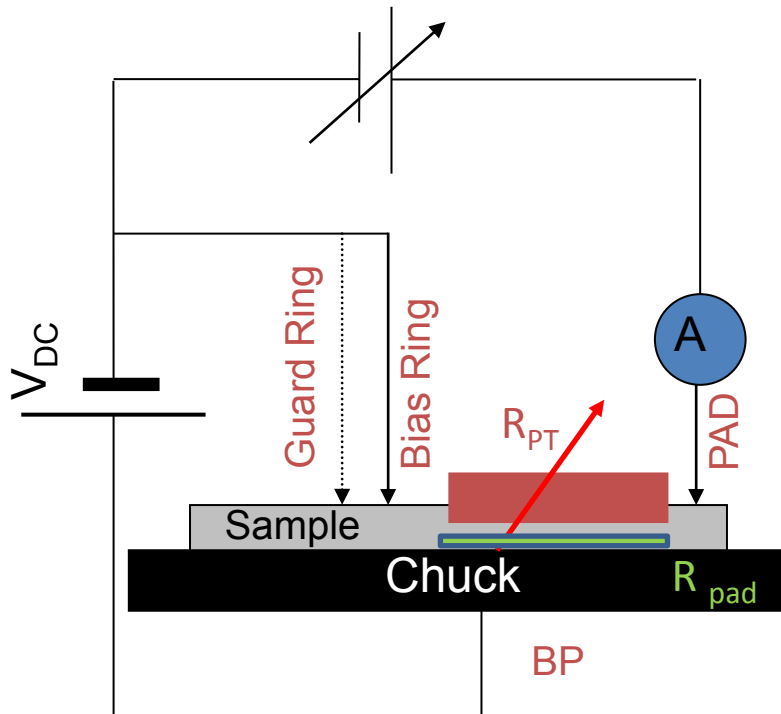
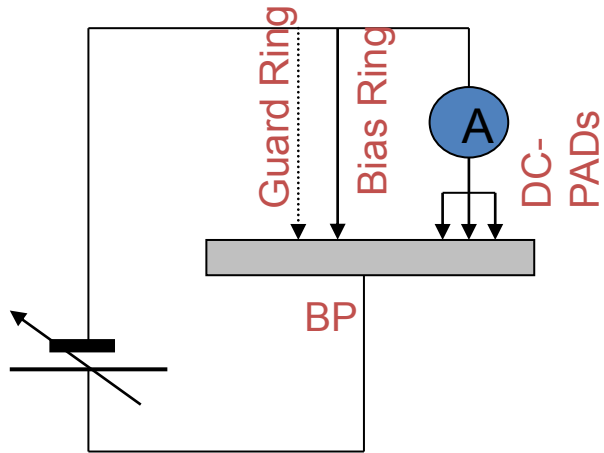
- Problems to make a conclusive figure



Its nice for Epi, its good for M and FZ320, its ok for FZ200 and its problematic for FZ120...

Answer questions and
discussions from last week

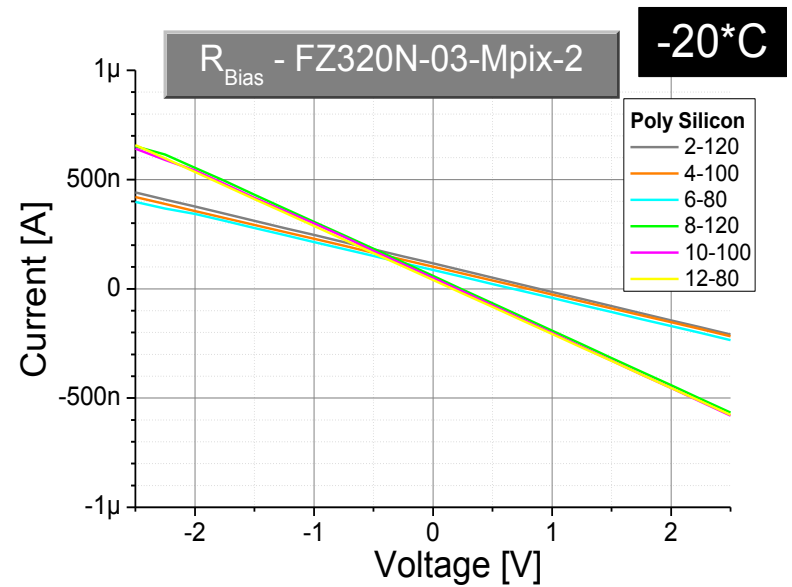
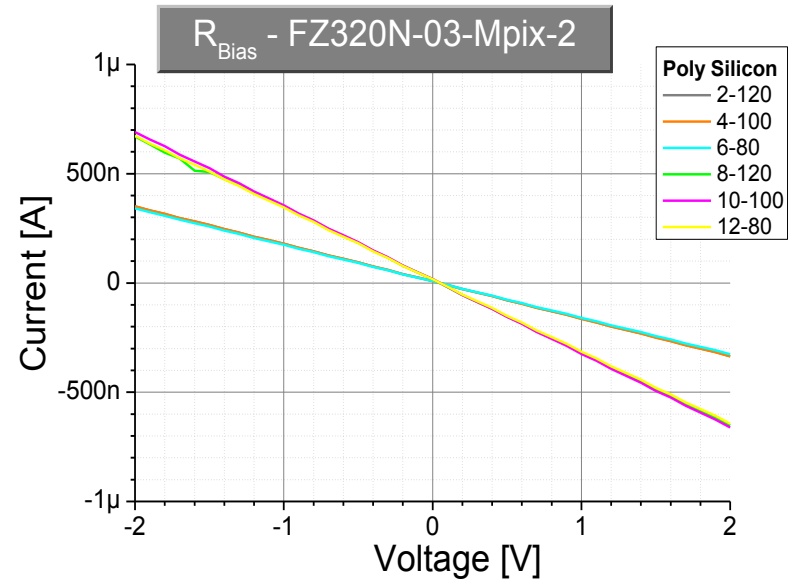
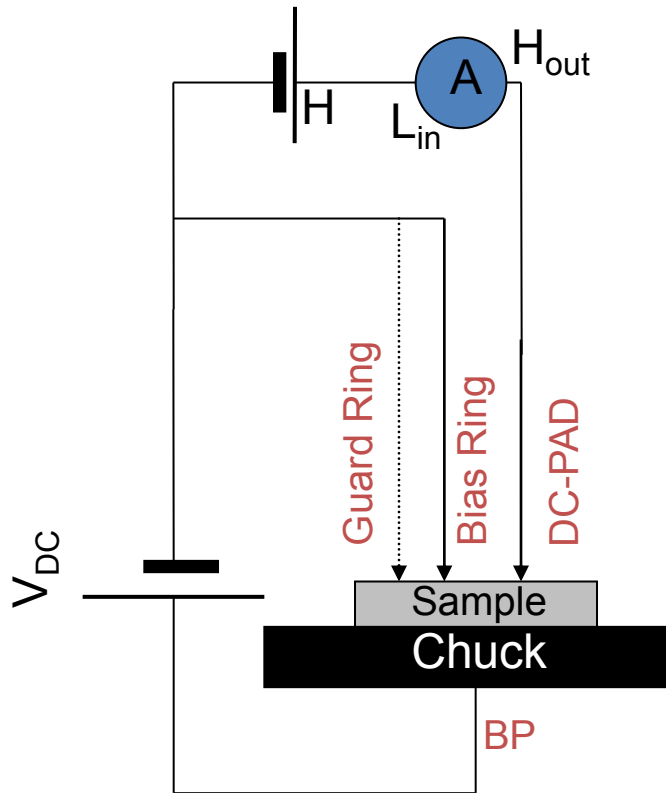
PT measurements

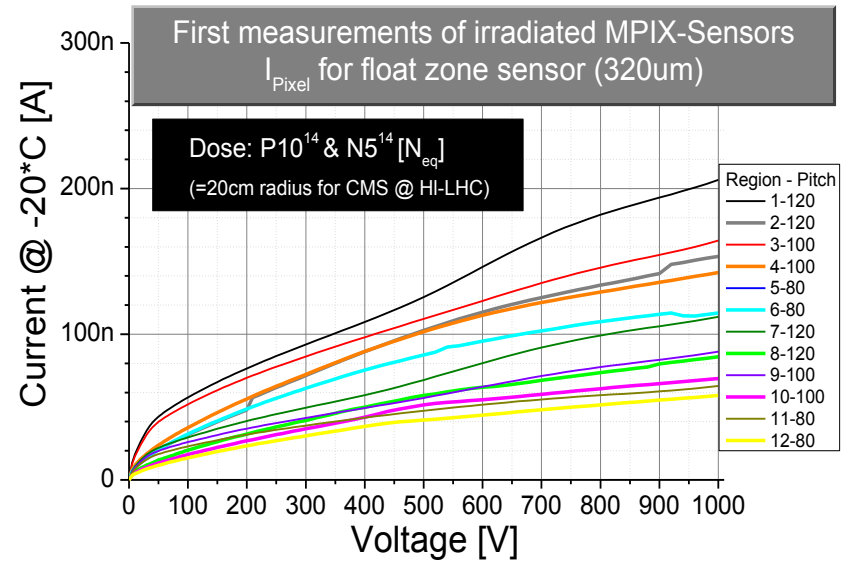
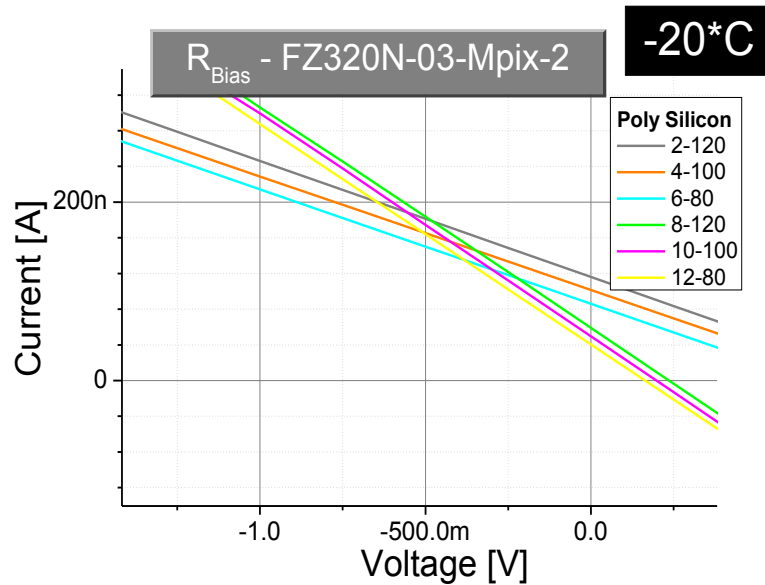
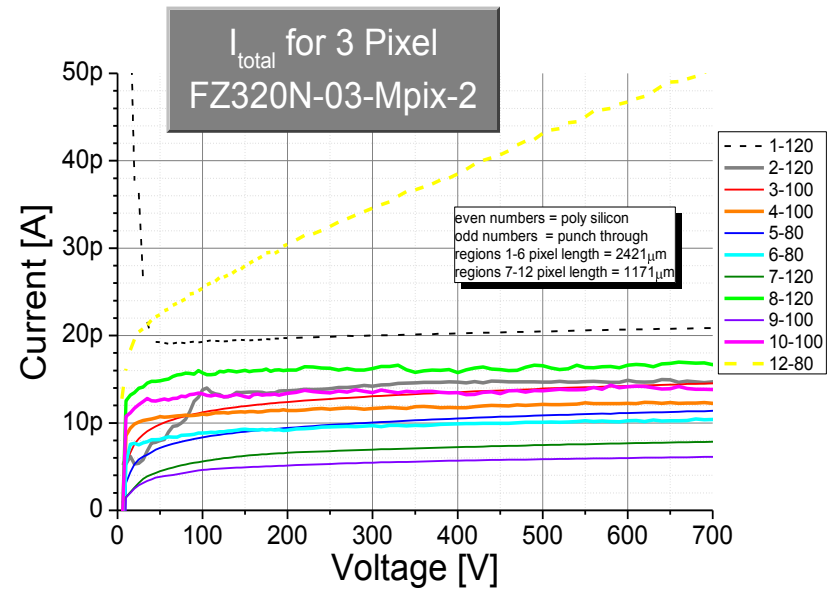
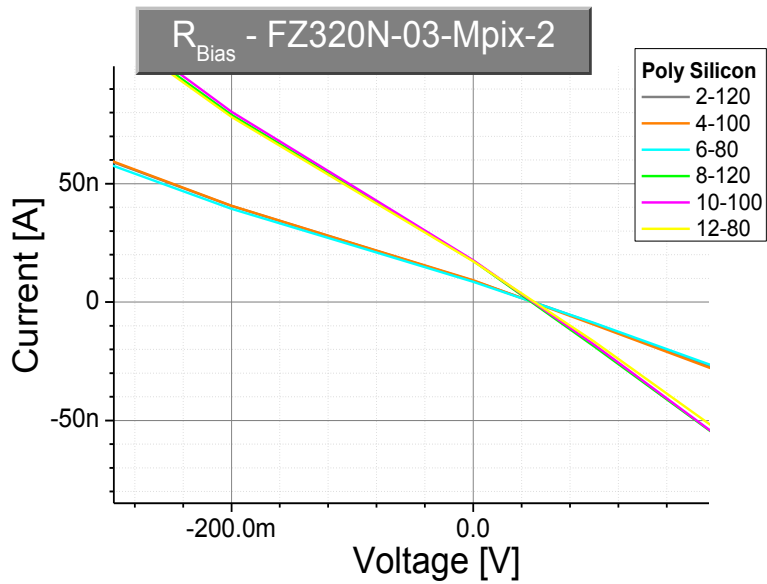


Pitch = Distance strip-bias ring = 100um

But contact areas are different

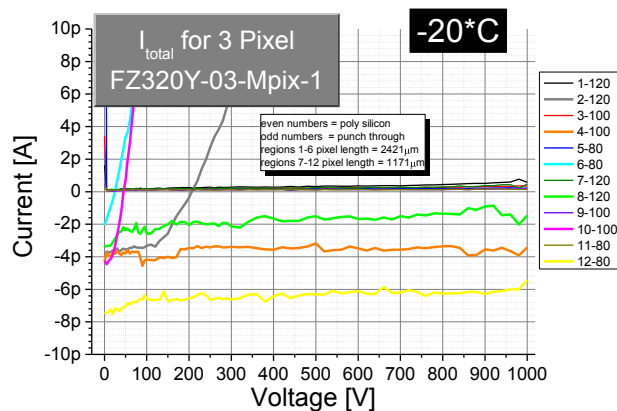
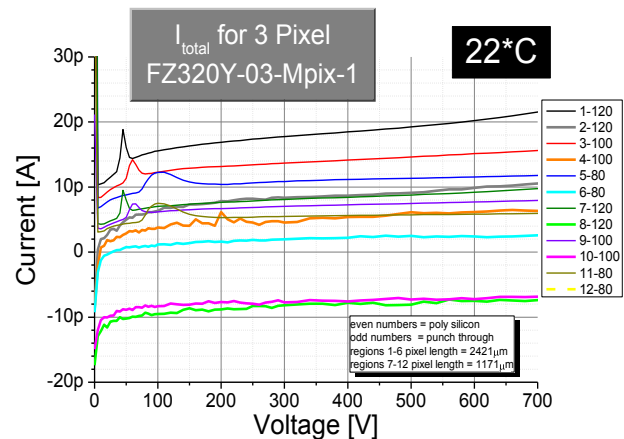
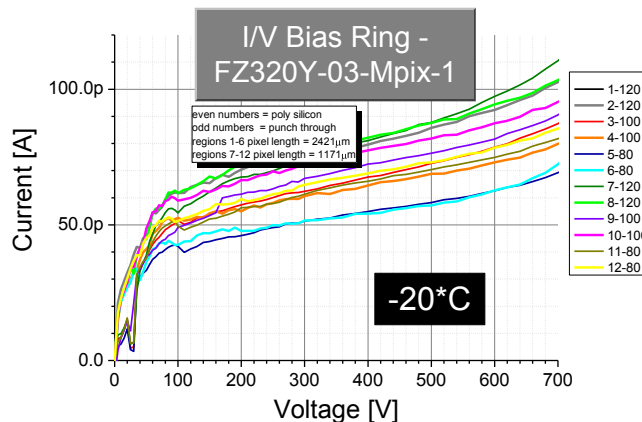
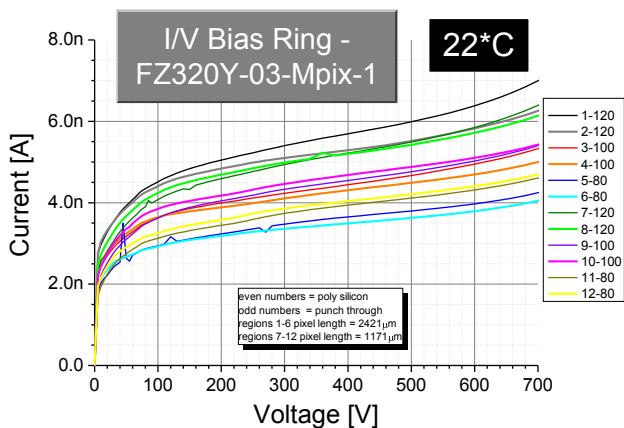
Rbias





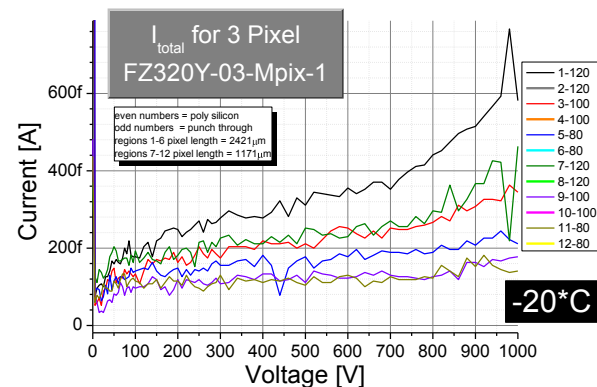
So we see an offset which is equal to the pixel current!

What happens with cooled measurements???



I at 450V	T = 22°C	T = -20°C	Ratio
1-120	5.86E-09	2.11E-10	27.76
2-120	5.41E-09	8.28E-11	65.38
3-100	4.57E-09	7.04E-11	65.00
4-100	4.42E-09	6.68E-11	66.08
5-80	3.74E-09	5.68E-11	65.78
6-80	3.57E-09	5.62E-11	63.59
7-120	5.38E-09	8.48E-11	63.41
8-120	5.33E-09	8.53E-11	62.48
9-100	4.67E-09	7.48E-11	62.46
10-100	4.80E-09	7.98E-11	60.18
11-80	4.04E-09	6.86E-11	58.92
12-80	4.14E-09	7.14E-11	57.95

I at 450V	T = 22°C	T = -20°C	Ratio
1-120	1.89E-11	2.81E-13	67.20
3-100	1.44E-11	2.15E-13	67.09
5-80	1.13E-11	1.48E-13	76.13
7-120	8.66E-12	2.33E-13	37.10
9-100	7.40E-12	1.19E-13	62.44
11-80	5.69E-12	1.22E-13	46.55



Have to test it:
5K steps for 1xPT & PS
+ Bias Ring(?)

$$I(T_R) = I(T) \left(\frac{T_R}{T} \right)^2 \exp \left(-\frac{E}{2k_B} \left[\frac{1}{T_R} - \frac{1}{T} \right] \right) \sim 68$$