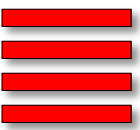


HPK DSSD

6 Feb 2012

T. Tsuboyama (KEK)

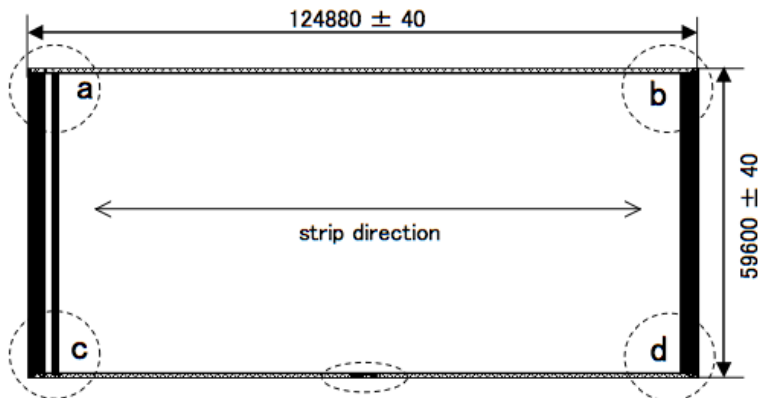
The DSSD page



- The information of HPK DSSD has been collected in
URL: <http://belle.kek.jp/group/svd/DSSD/SVD4/index.html>
- Design, specifications, drawings are available.

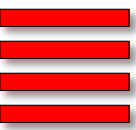
Chip overall

P-side





Delivery information (T. Bergauer)



http://belle.kek.jp/group/svd/DSSD/SVD4/20111124-Belle_HPK_Sensors.htm

Status of available DSSDs for Belle II

Belle II 6inch:

batch	received@KEK	batch no	pcs received	sensors at KEK	Vienna	Mechanical Sample
1 (R&D)	Feb-10	10938-9239	21	3, 6, 10, 11, 14, 15, 18, 19, 20,	2, 4, 5, 8, 9, 12, 13, 16, 17, 23, 25	other sensors used: 22(Mibe), 1(Onuki), 7(Tsuboyama)
3 (nostealth)	2011/6/18	10938-0404	12	60, 61, 62, 63	52, 53, 54, 55, 56, 57, 58, 59	red to Vienna by Thomas
4(nostealth)	2011/8/11	10938-0306	16			box still sealed
4(stealth)	2011/8/11	10938-0306	6	82, 83, 84	80, 81	1 (no number)

Ordered	delivery	
	2011-end	(74)
	2012-end	(40)

Batch	Delivery	Pieces	Dicing
Pilot	2010/3/	12	saw
0404	2011/6/18	12	saw
0306	2011/8/11	16	saw
0306	2011/8/11	5	laser
	2012/march	(74)	laser
	2012/October	(40)	laser
	2012/October	(18)	laser
Total		33 (165)	

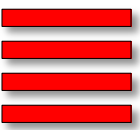
Previous productions

SVD2.5	50pcs
	10pcs mechanical samples
Striplets (UV)	4pcs
	3 mechanical samples

Update history

Thomas Bergauer, 21 Nov 2011

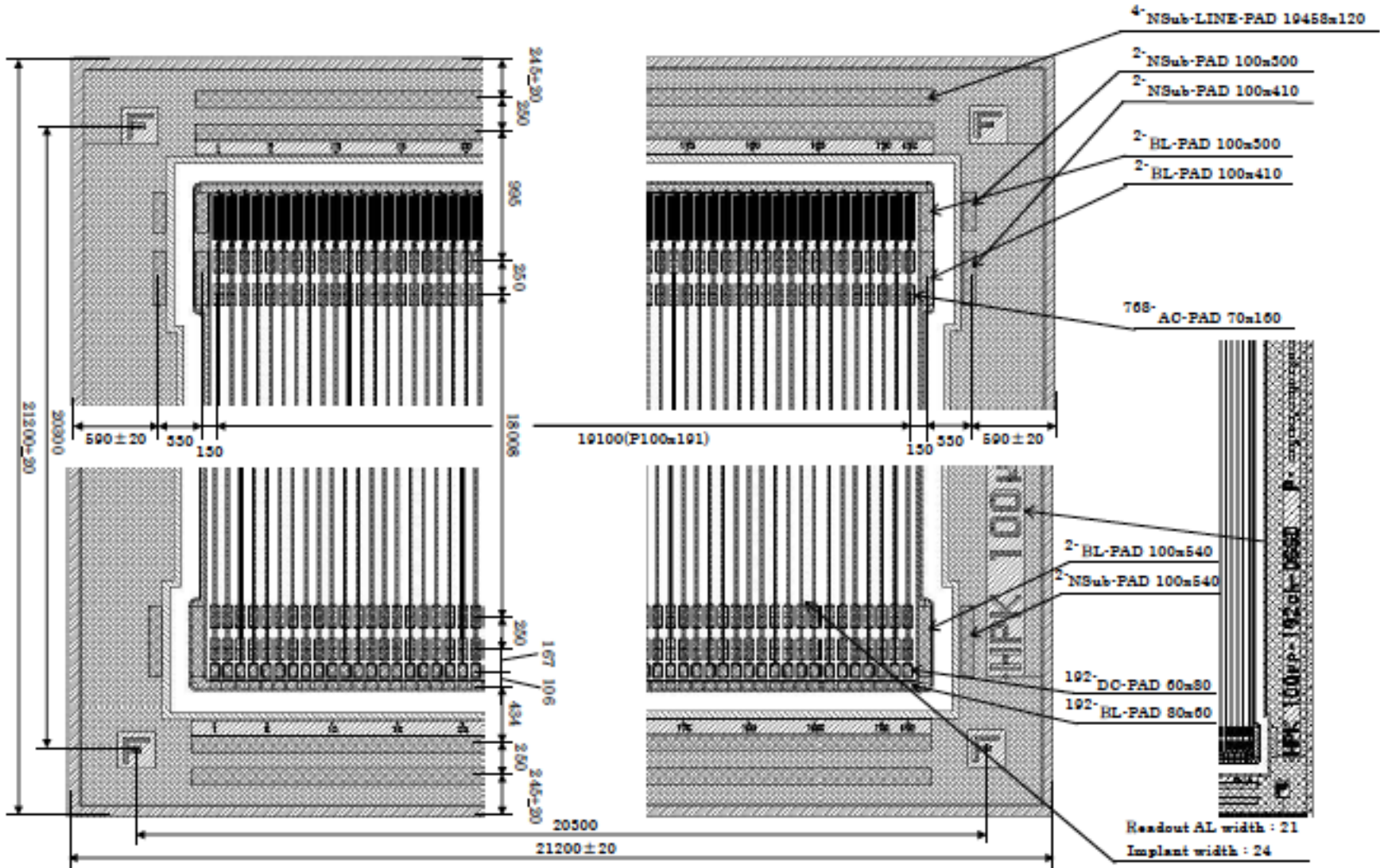
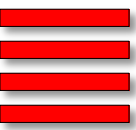
Information added on 24 Nov 2011 (TT)



- Test of DSSDs are done in HPK.
- We do not have worry about the initial properties:
 - full depletion voltage, leak current, strip yield.
- It is hard to know the long-term properties
 - Radiation effect (full depletion voltage, leak current, pin holes)
 - We can not do a destructive test.
- We first asked a simple test structure.
- Then we learned they have a 1cmx1cm double sided sensor on each wafer.
- Since 2012 delivery, we will get one mini DSSD for each large side DSSD.

Item.	Specification
Chip size	21.2mm x 21.2mm
Active area	19.1mm x 19.1mm
Readout strips	192 x 100 μ m pitch
N side	ATOL-type p-stop
P side	No floating strips

Baby DSSD



- Each DSSD has a 4-digit scratch-pad area for identification
- Each HPK envelope is printed its ID with a bar code (code128 / 12 digits).
- Let us put an ID to each SVD component.
- A data base will be constructed to register all the parts.

Numbering Scheme

- E.g. Sensor 2 02 01 2 0404 52 (12 digits)
 - Meaning of digits:
 - 2.....*Belle-II*
 - 02.....*SVD (01...PX,...*)
 - 01.....*Sensor (02...Hybrid, 03...Ladder,...)*
 - 2.....*HPK (1...Micron)*
 - 0404.....*HPK Batch No.*
 - 52.....*Sensor within batch*
 - Written without blanks: 202012040438
- Micron also used 4 digit batch and 2 digit sensor-within-batch

