Sep. 2003
SCT week@CERN
S. Terada; KEK

SCT Barrel "PC" Hybrid Status

Japanese SCT group

"PC" Hybrid Production and Delivery

(as of 1. Sep. 2003)

- So far produced;

1546 pcs' of good "PC" hybrids
(incl. the ones with old PA and "white" PA(159))

- So far delivered to;

UK	US	Japan
260 (47)	233 (9)	803 (61) pcs'

(with "white" PA)

 Production schedule update;

Sep. 2003	320
Oct. 2003	320
Nov. 2003	314
Total	2,500

"ASIC" Hybrid

So far produced; 803 pcs'

So far delivered to;

Nordic	Japan
69 (4)	502 (57) pcs'

(with "white" PA)

Pitch adapter problem

("white PA" problem)

The PAs' in the sixth lot (about 200 pcs') were found to have an Al layer of slightly whiter and rougher surface. They had such a poor bonding quality as reported by Hamamatsu that the failure rate of the bonding between the PA and Si-sensor (mostly 1st bond) was about 2 %.

The company has lost control over the PA production process and could not reproduce the original good quality.

We are now working with an another company who has better facility and quality control.

We found that thickness of the aluminum layer on glass seems to be the most critical parameter provided we maintain clean glass surface, contamination free environment, stable growth rate of the Al layer and so on. Thicker layer (> 1.05 mm)

tends to produce more whiskers.

We have been trying the Al. layer of 0.85 to 0.95 μm thick.

Bonding test at SPI were satisfactory.

Samples have already been sent to UK and US.

We are waiting for their results.

Other news

The PA could be replaceable.

By heating up the PA at 60 to 80 deg. C, it can be removed without damaging the hybrid, although some glue residual under the PA remains. We are working on how to clean up this residual.