Hybrid 5p96 Traveler

March 27, 2000

1 Connectivity

Repairs on shorts:
PARST and PRD1 dead short to GND at solder pad just above junction between (buried jumper field) 2-chip and 3-chip subhybrids. Fixed by:

- scratching PARST and PRD1 traces under dielectric on either side of GND solder pad mentioned above
- adding wires from left cable solder field to right cable solder field for PARST and PRD1.

Fixes for opens:

2 Chips

The following chips were assembled on this hybrid (in the order that the chips get read out):
Hybrid 5P96 has die: 162-066 162-076 162-090 162-100 162-108

3 Data Analysis Summary

The following summarizes the findings of the Burn-in data analysis program. The first chip in the readout name is numbered 0.

```
% Hybrid 5p96 classification info. Created 09:43:01 03/27/00

Hybrid 5p96 quality: fair
Chip classification: fair good good good good
Bad channels: none
Bad cells: none
Random bad capacitors (chip-cell-channel): 0-16-93 0-24-72 0-25-23
   0-26-85 0-37-48
Channels at pedestal needed for DCMS: 35.7 32.6 33.6 36.7 36.5
```

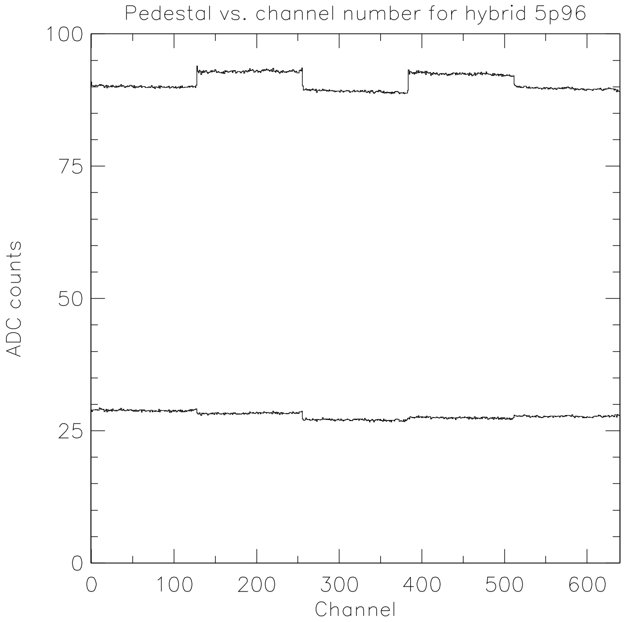
4 Comments

Encapsulated. FE DV finger gold bonds. HV tested.

5 Pedestal

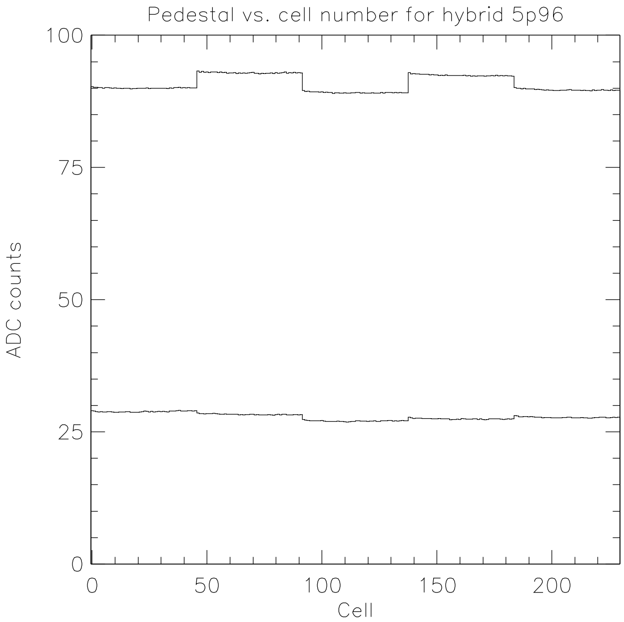
The following plot shows the pedestals vs. channel number with and without charge injection:

Pedestal for each Channel



The following plot shows the average pedestal vs. pipeline cell ID with and without charge injection. The x-axis is cell ID offset by 46 for each chip. Thus cell ID 5 for chip 1 is at x=5, chip 2 at x=51, chip 3 at x=97, etc.

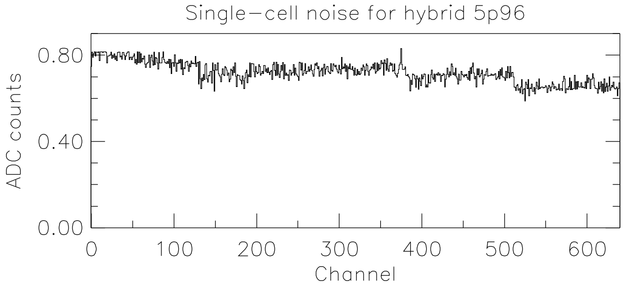
Pedestal vs. Pipeline Cell ID

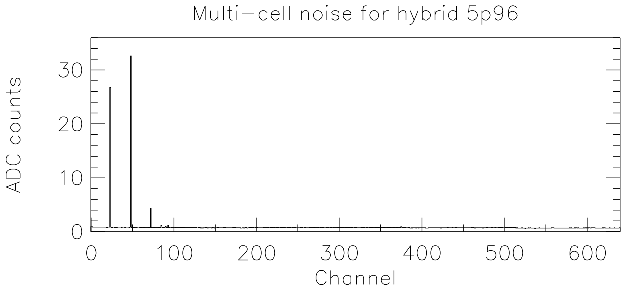


6 Noise

The following plots show the single-cell and multi-cell RMS noise:

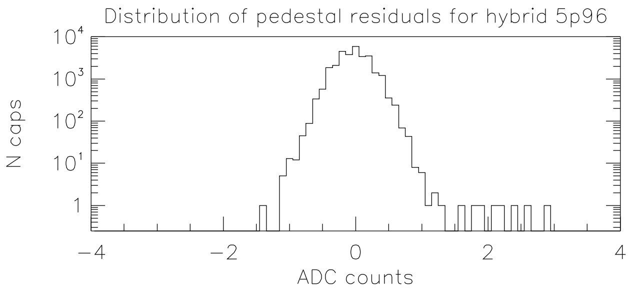
RMS Noise

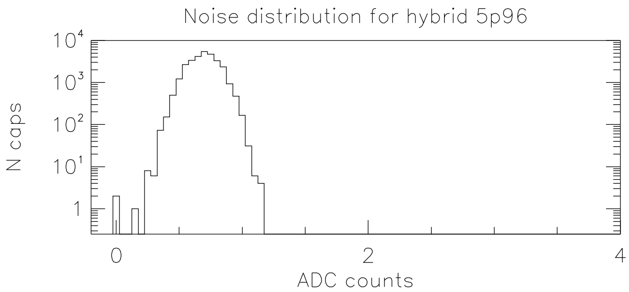




The following are histograms of the pedestal of each pipeline capacitor relative to the chip average (top); and the RMS noise of each capacitor (bottom):

Distribution of Pedestals and Noise





7 Currents

The following plots show the supply currents per chip as a function of measurment number. Currents are measured approximately every 10 minutes:

Supply Currents During Burn-in