Hybrid 4z100 Traveler

January 13, 2000

1 Connectivity

Repairs on shorts:

Fixes for opens:
AVDD open fixed on chip 1.

2 Chips

The following chips were assembled on this hybrid (in the order that the chips get read out):
Hybrid 4Z100 has die: 113-019 047-041 149-003 149-004

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 4z100 classification info. Created 15:06:45 10/07/99

Hybrid 4z100 quality: fair
Chip classification: fair good fair good
Bad channels (chip-channel): 2-58 2-59
Bad cells: none
Random bad capacitors (chip-cell-channel): 0-19-0
Channels at pedestal needed for DCMS: 32.3 34.6 32.6 34.6
```

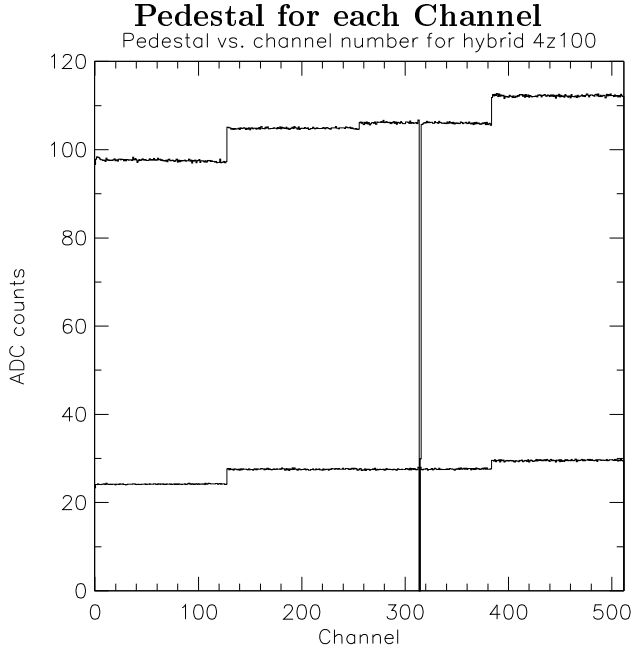
4 Comments

Retrofitted with 4.7μF digital caps and redundant FE DVDD, DGND bonds.
HV test.

5 Pedestal

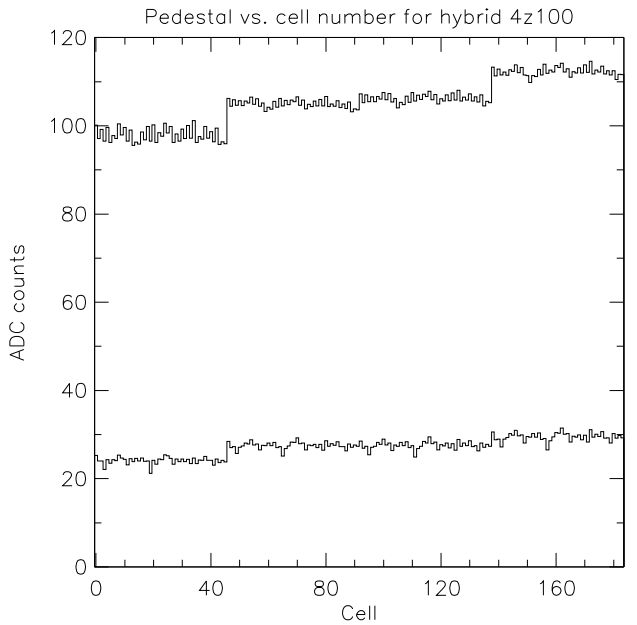
The following plot shows the pedestals vs. channel number with and without charge injection:

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.

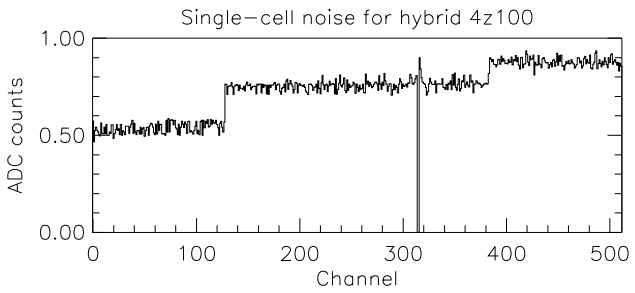
Pedestal vs. Pipeline Cell ID

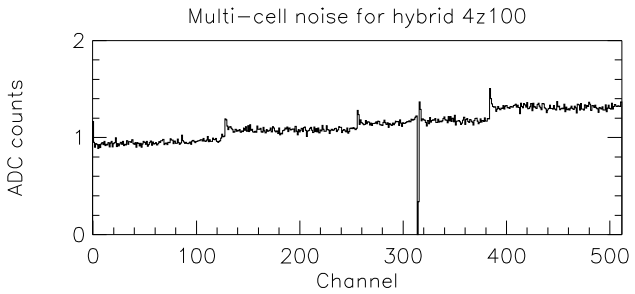


6 Noise

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

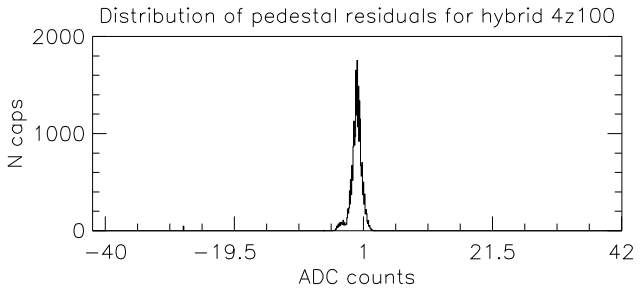
RMS Noise

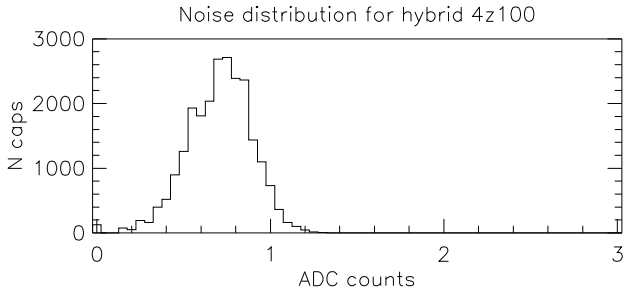




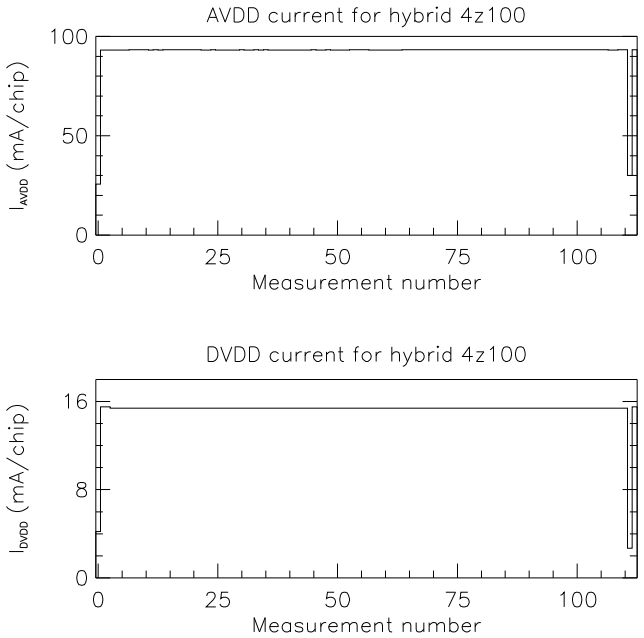
The following are histograms of the pedestal of each pipeline capacitor relative to the chip average (top); and the RMS noise of each capacitor (bottom):

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