Hybrid 5z84 Traveler

May 1, 2000

1 Connectivity

Repairs on shorts:
Low resistance HV short to AVDD2 on 2-chip side fixed by:

- scratching surface trace, hidden under the HV cap, which goes from HV cap to HV solder pad for (unused) HV- resistor
- adding wire from HV cap to spare trace near last finger
- wire bond HV from spare trace instead of HV wirebond trace.

Fixes for opens:

2 Chips

The following chips were assembled on this hybrid (in the order that the chips get read out):
Hybrid 5Z84 has die: 180-033 180-035 180-037 180-038 180-039

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 5z84 classification info. Created 08:50:25 04/27/00

Hybrid 5z84 quality: fair
Chip classification: good fair good fair fair
Bad channels: none
Bad cells: none
Random bad capacitors (chip-cell-channel): 1-0-80 1-18-78 1-18-79
   1-19-79 1-39-80 1-39-81 1-5-79 1-7-79 1-9-79 3-41-63 4-27-27
   4-44-40 4-45-40
Channels at pedestal needed for DCMS: 32.7 31.7 31.6 31.7 31.7
```

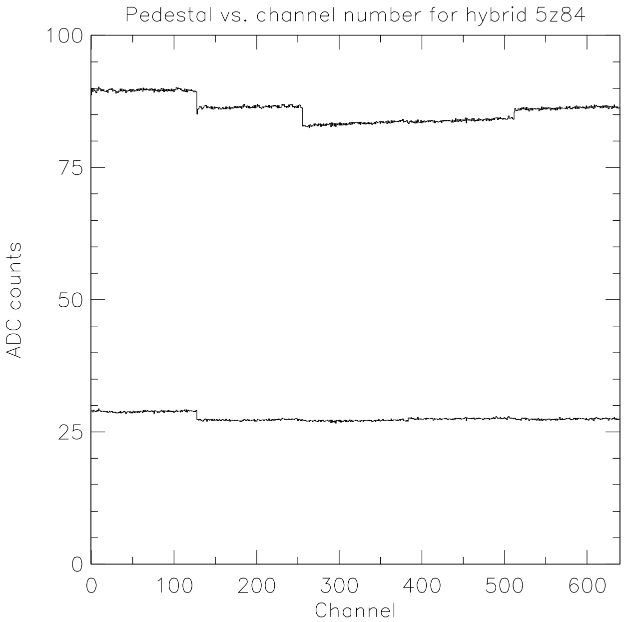
4 Comments

Encapsulated. FE DV finger gold bonds. HV tested.

5 Pedestal

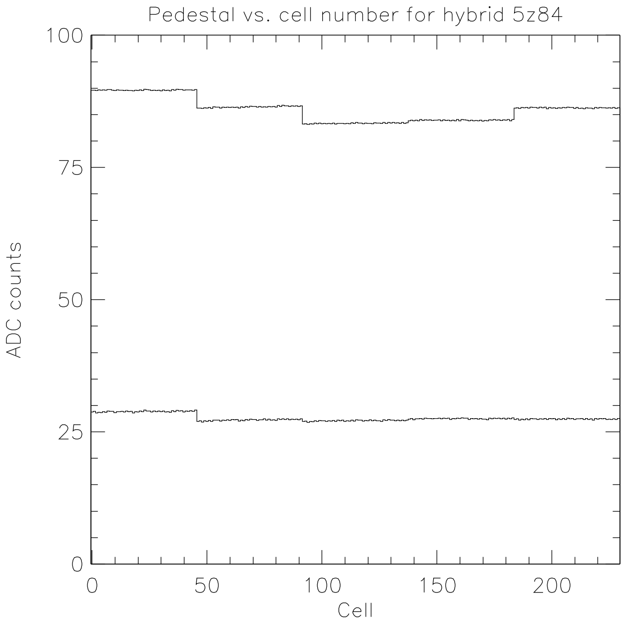
The following plot shows the pedestals vs. channel number with and without charge injection:

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.

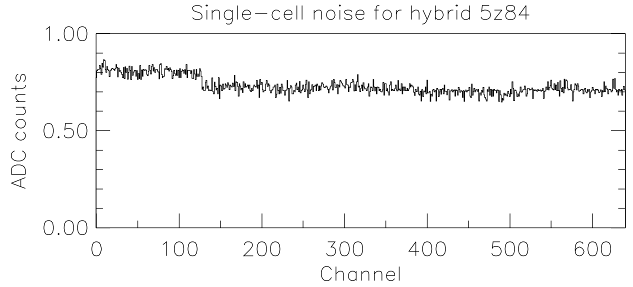
Pedestal vs. Pipeline Cell ID

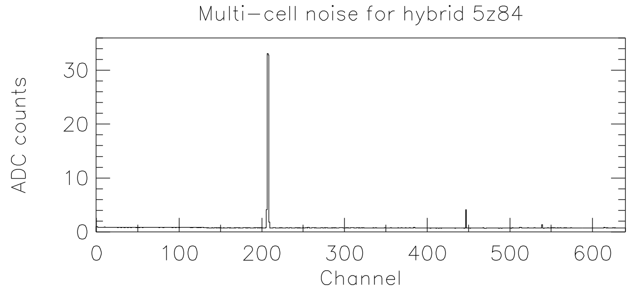


6 Noise

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

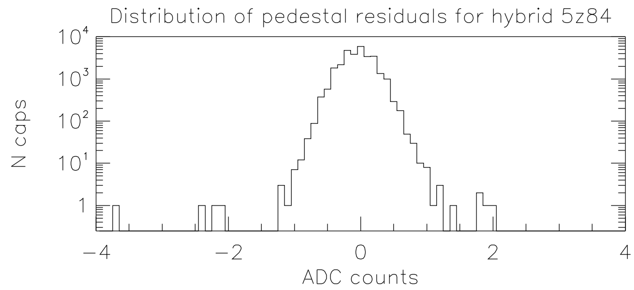
RMS Noise

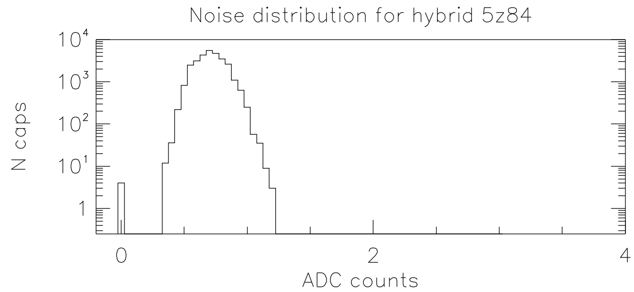




The following are histograms of the pedestal of each pipeline capacitor relative to the chip average (top); and the RMS noise of each capacitor (bottom):

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