Hybrid 4z234 Traveler

March 2, 2000

1 Connectivity

Repairs on shorts:
High resistance HV short to gnd in hybrid. Fixed by:

- removing 0 Ohm resistors from R5A and R5B on right side
- isolating buried HV path from right to left sides by scratching surface gold trace between the HV via (to buried HV jumper trace) and 10k Ohm resistor in R5A on left side
- adding a wire from HV+ solder pad on R5A on left side to R5A on right side

Fixes for opens:

2 Chips

The following chips were assembled on this hybrid (in the order that the chips get read out):
Hybrid 4Z234 has die: 174-112 174-114 174-115 174-116

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 4z234 classification info. Created 10:14:35 02/22/00

Hybrid 4z234 quality: good
Chip classification: good good good good
Bad channels: none
Bad cells: none
Random bad capacitors: none
Channels at pedestal needed for DCMS: 29.7 39.6 34.7 29.5
```

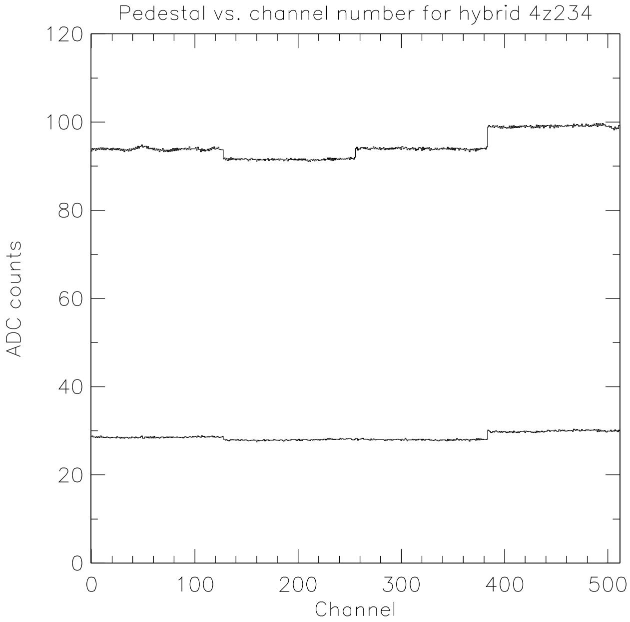
4 Comments

Encapsulated. FE DV finger gold bonds. HV tested.

5 Pedestal

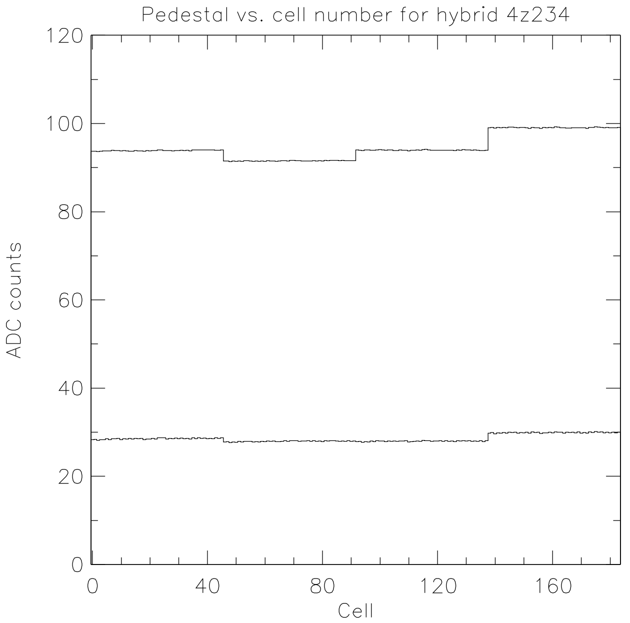
The following plot shows the pedestals vs. channel number with and without charge injection:

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.

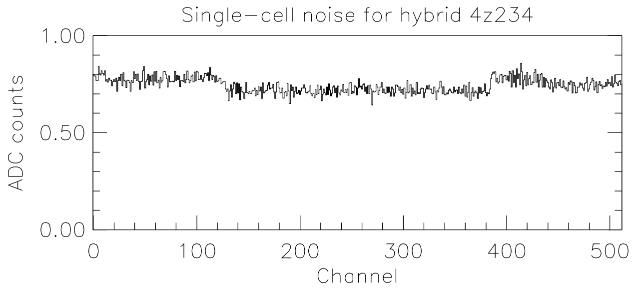
Pedestal vs. Pipeline Cell ID

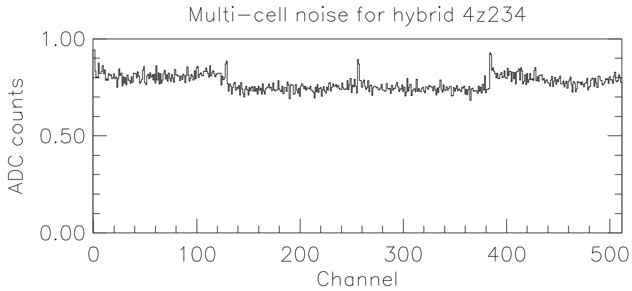


6 Noise

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

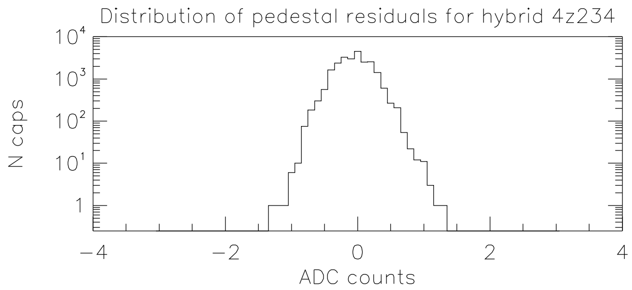
RMS Noise

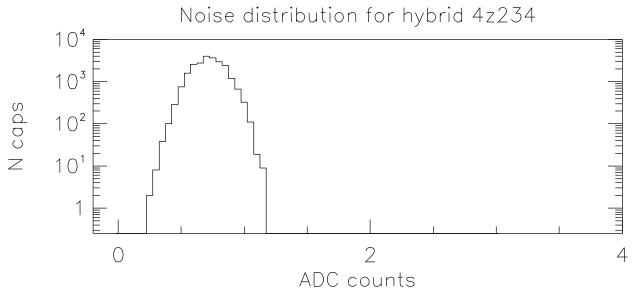




The following are histograms of the pedestal of each pipeline capacitor relative to the chip average (top); and the RMS noise of each capacitor (bottom):

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