Hybrid 5z64 Traveler

May 15, 2000

1 Connectivity

Repairs on shorts:CHMODE was shorted to AVDD2. Isolated short by scraping fat AVDD2 trace on top layer.

Fixes for opens:

2 Chips

The following chips were assembled on this hybrid (in the order that the chips get read out):
Hybrid 5Z64 has die: 027-046 027-048 027-050 210-051 027-052

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 5z64 classification info. Created 08:40:13 05/15/00

Hybrid 5z64 quality: fair
Chip classification: fair good fair fair good
Bad channels (chip-channel): 0-21 2-124
Bad cells: none
Random bad capacitors (chip-cell-channel): 2-18-0 2-18-1 2-18-11
   2-18-127 2-18-14 2-18-2 2-18-3 2-2-0 2-2-1 2-2-2 2-2-31
   2-2-41 2-2-8 2-2-9 2-20-124 2-34-1 3-4-58 3-4-59 3-44-116
Channels at pedestal needed for DCMS: 35.6 37.6 34.7 32.7 35.7
```

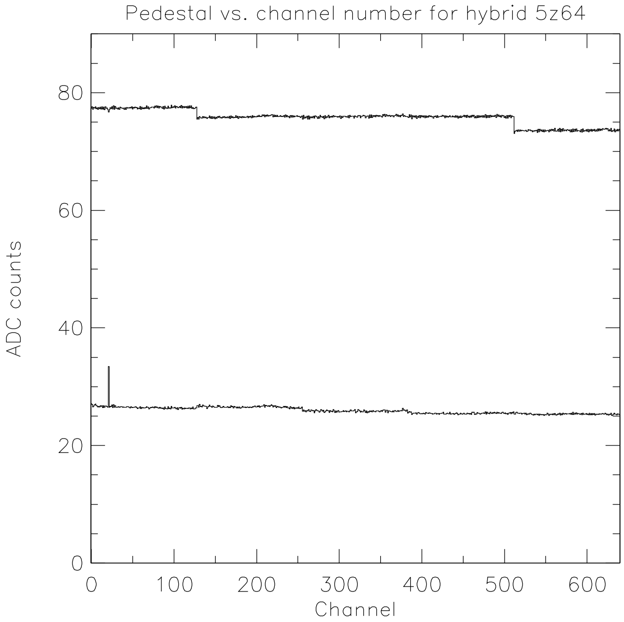
4 Comments

Encapsulated. HV tested. Au FE DVDD and DGND wirebond.

5 Pedestal

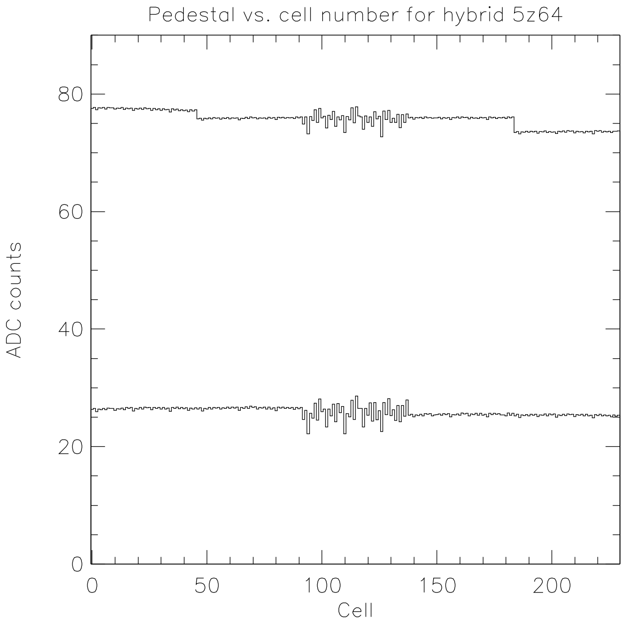
The following plot shows the pedestals vs. channel number with and without charge injection:

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.

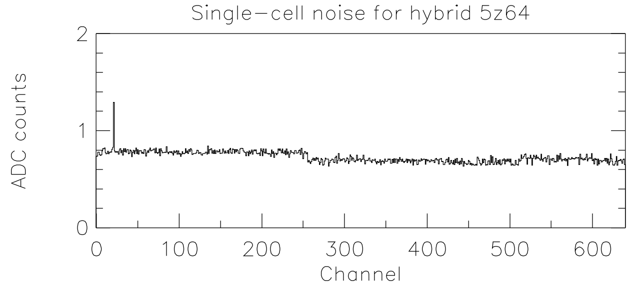
Pedestal vs. Pipeline Cell ID

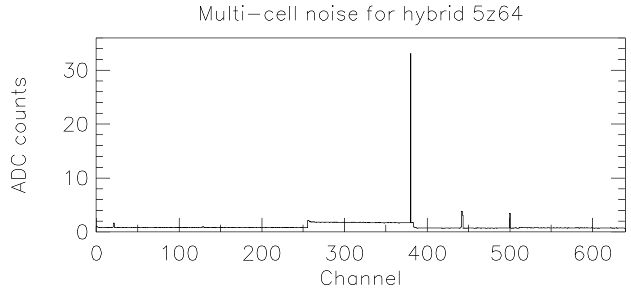


6 Noise

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

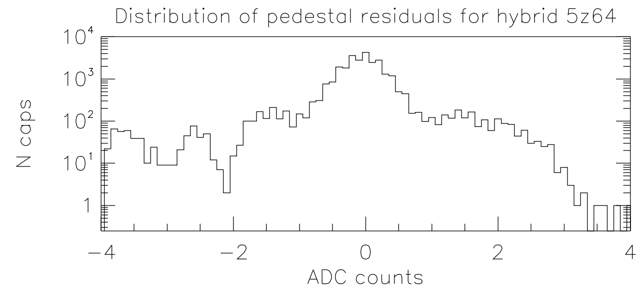
RMS Noise

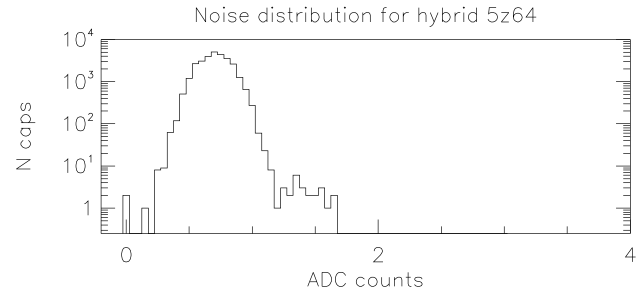




The following are histograms of the pedestal of each pipeline capacitor relative to the chip average (top); and the RMS noise of each capacitor (bottom):

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