Hybrid 7z57 Traveler

February 24, 2000

1 Connectivity

Repairs on shorts: FECKH shorted to L1A. Fixed by isolating short to middle 2-chip hybrid and jumping L1A from chip 2 to chips 3 and 4.

Fixes for opens: L1A open to last three chips; fixed by added wire on hybrid.

2 Chips

The following chips were assembled on this hybrid (in the order that the chips get read out):
Hybrid 7Z57 has die: 078-024 078-037 078-043 084-001 084-005 084-006 084-010

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 7z57 classification info. Created 09:21:59 02/14/00

Hybrid 7z57 quality: fair
Chip classification: good fair fair fair fair fair fair
Bad channels (chip-channel): 4-93 5-69 6-9
Bad cells: none
Random bad capacitors (chip-cell-channel): 1-39-23 2-17-64 2-20-64
   2-21-64 2-23-64 2-23-65 2-25-64 2-25-65 2-27-64 2-27-65 2-3-63
   2-3-64 2-36-64 2-36-65 2-37-64 3-11-14 3-11-15 3-14-14 3-15-14
   3-15-15 3-17-14 3-17-15 3-19-14 3-19-15 3-21-14 3-21-15 3-30-13
   3-30-14 3-30-15 3-31-14 3-43-14
Channels at pedestal needed for DCMS: 39.7 37.4 36.5 38.6 37.7 36.6 36.5
```

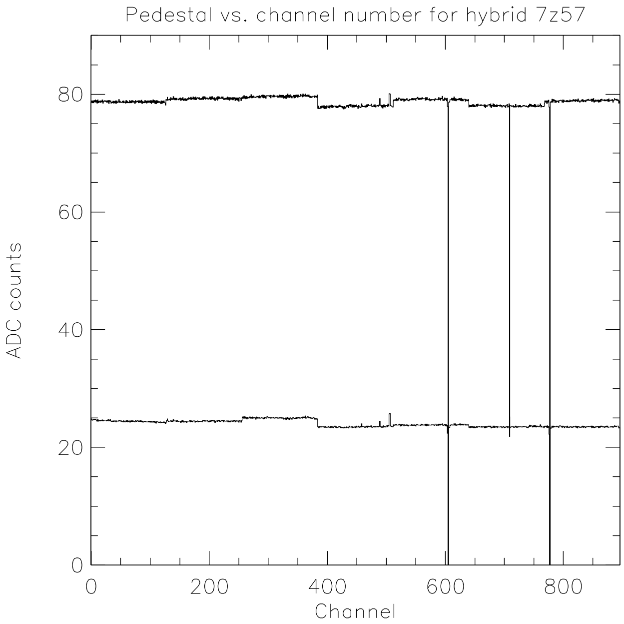
4 Comments

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

5 Pedestal

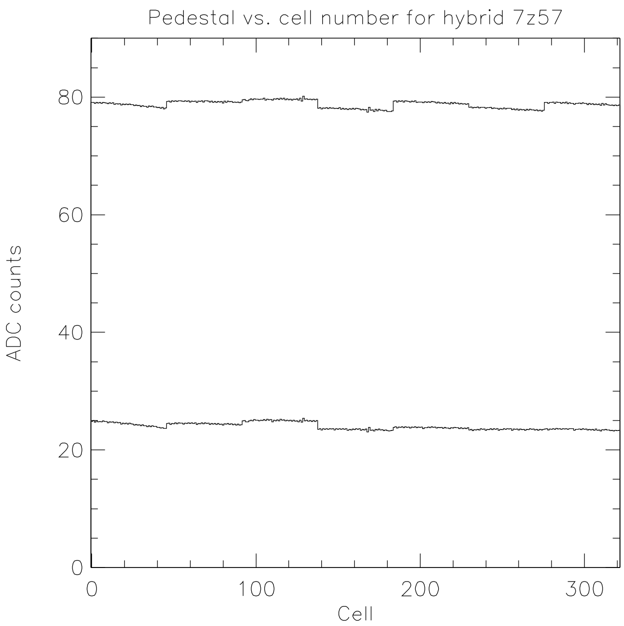
The following plot shows the pedestals vs. channel number with and without charge injection:

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.

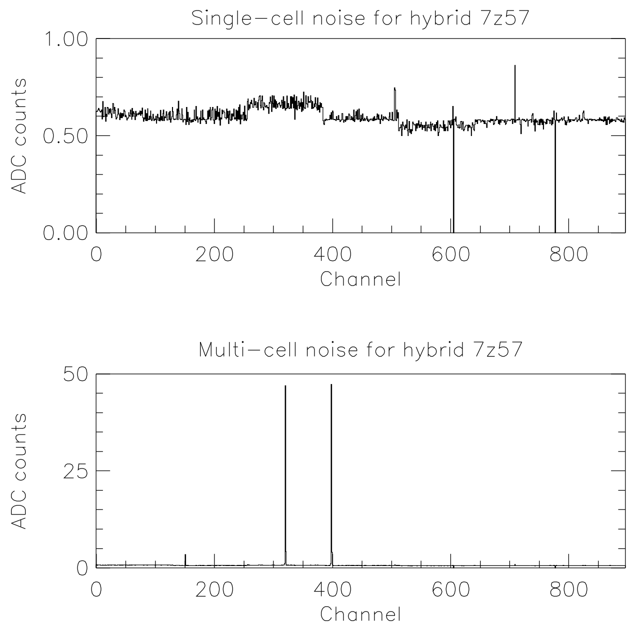
Pedestal vs. Pipeline Cell ID



6 Noise

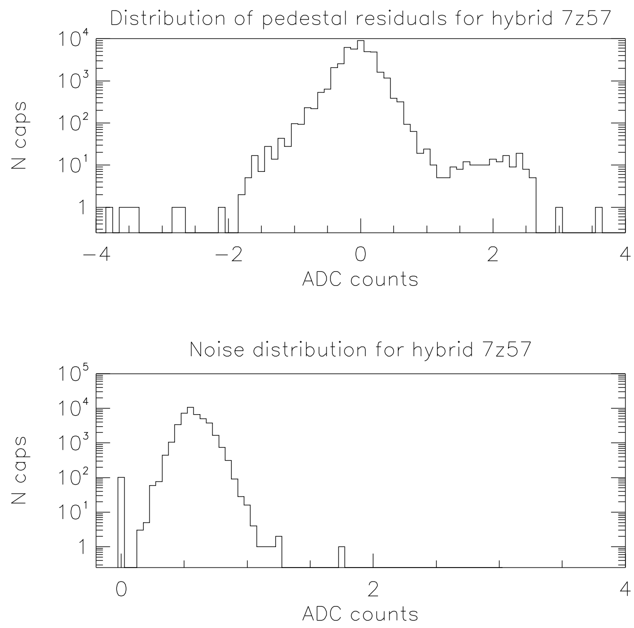
The following plots show the single-cell and multi-cell RMS noise:

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