# Hybrid 5z88 Traveler

December 17, 1999

## 1 Connectivity

Repairs on shorts:
OBDV was shorted to AVDD. Cut trace in 2 places along highway to isolate short at chip 3, and then jump wire bonds from chip 2 to chip 3 and from chip 3 to chip 4.

Fixes for opens:

## 2 Chips

The following chips were assembled on this hybrid (in the order that the chips get read out):
Hybrid 5Z88 has die: 037-007 037-017 037-024 037-031 037-037

## 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 5z88 classification info. Created 19:14:49 12/16/99

Hybrid 5z88 quality: fair
Chip classification: fair fair good good fair
Bad channels: none
Bad cells: none
Random bad capacitors (chip-cell-channel): 0-39-14 1-0-99 1-1-99
   1-10-99 1-19-99 1-2-99 1-3-99 1-4-99 1-45-99 1-5-99 1-6-99
   1-8-99 1-9-99 4-10-2 4-10-3 4-12-2 4-12-3 4-14-2 4-14-3
   4-23-2 4-23-3 4-24-2 4-36-1 4-36-2 4-4-2 4-4-3 4-7-2
   4-7-3 4-8-2
Channels at pedestal needed for DCMS: 36.6 32.6 34.7 33.7 36.7
```

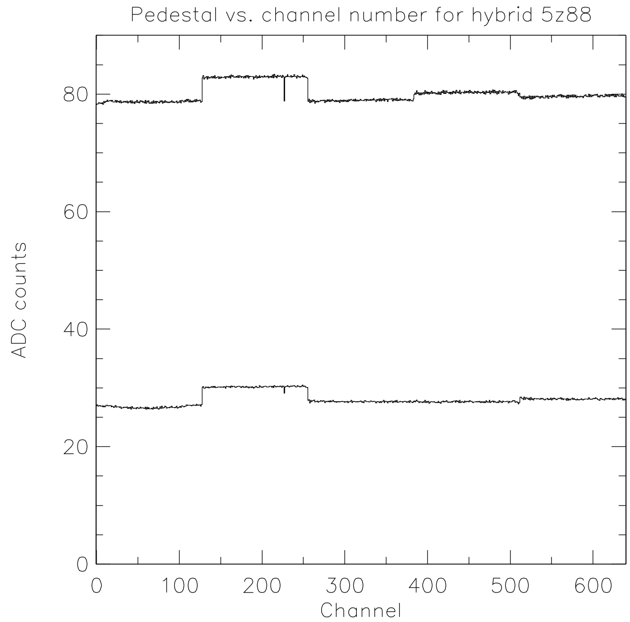
# 4 Comments

Has automatic Al chip-to-same chip wirebonds for FE DVDD, DGND.
Passed HV test.

# 5 Pedestal

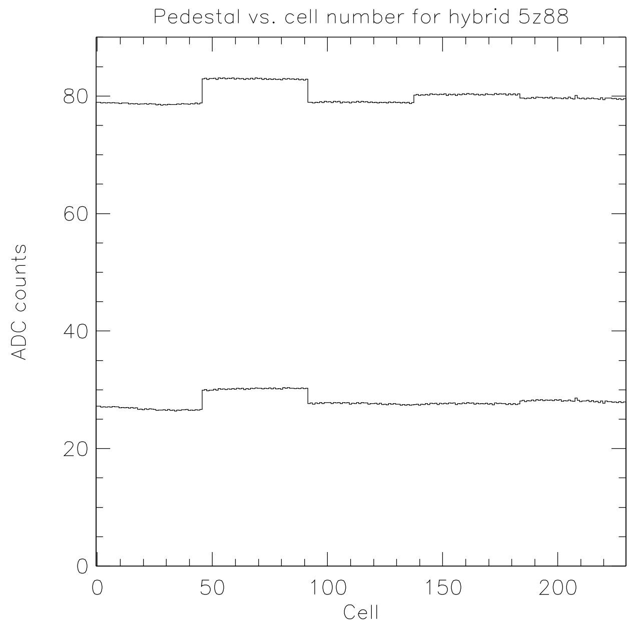
The following plot shows the pedestals vs. channel number with and without charge injection:

**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.

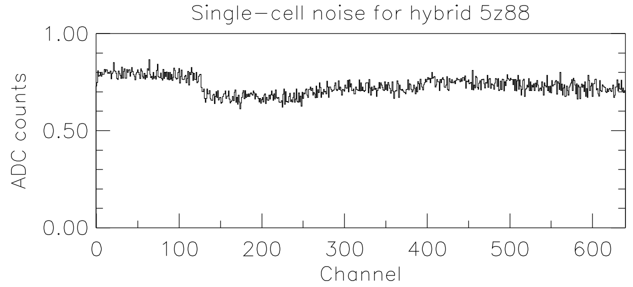
**Pedestal vs. Pipeline Cell ID**

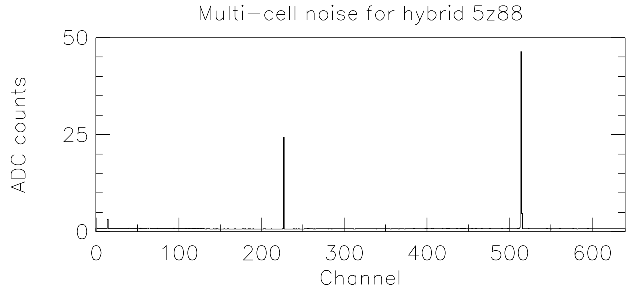


# 6 Noise

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

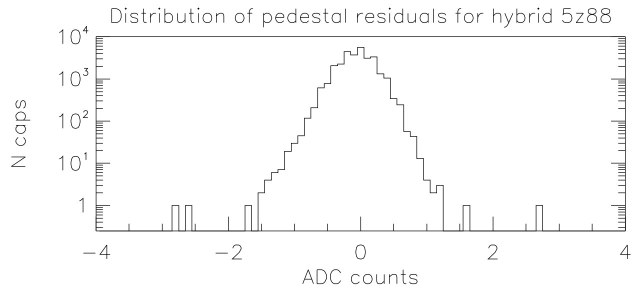
**RMS Noise**

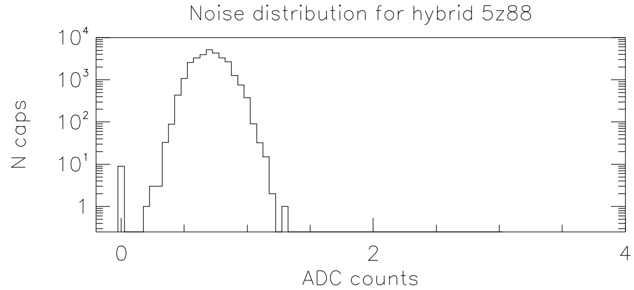



The following are histograms of the pedestal of each pipeline capacitor relative to the chip average (top); and the RMS noise of each capacitor (bottom):

**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**