

Stability of 2x2 APDs

CERN Group

3.10.2017

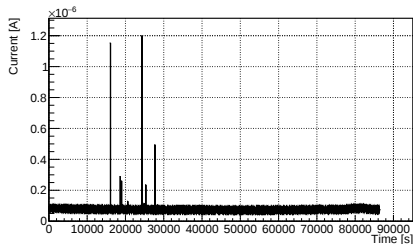


Setup

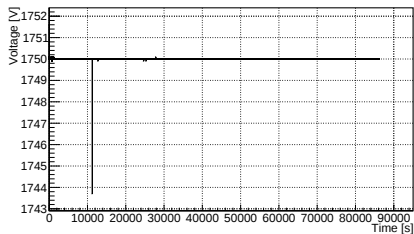
- Packaged 2x2 APD
- 10 M Ω in series
- 1750 V bias (Iseg)
- 10 μ A trip condition
- No T control
- Log I, V, every 3 s

394-1-51 24 Hours

Current



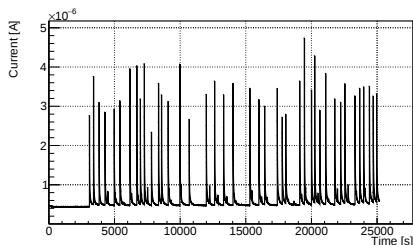
Bias



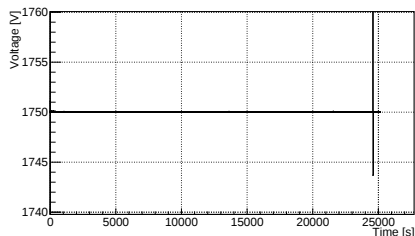
- Peaks are single points
- Bias voltage stable
- Stable base line
- **Good sensor**

394-1-50 7 Hours

Current



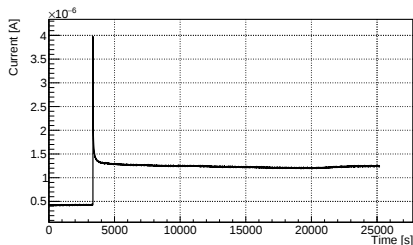
Bias



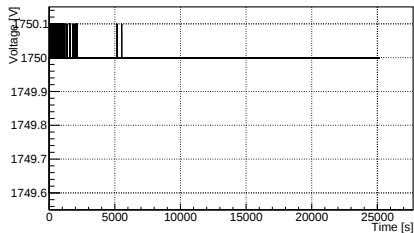
- Higher current baseline
- Peaks show decays
- Bias voltage stable (one point wrongly measured, 2150 V)
- What can be the cause of these peaks?

394-1-50 7 Hours, After 13 h bake at 80 C

Current



Bias



- One peak
- Shift in baseline
- To be checked for dark pulses

Backup Material