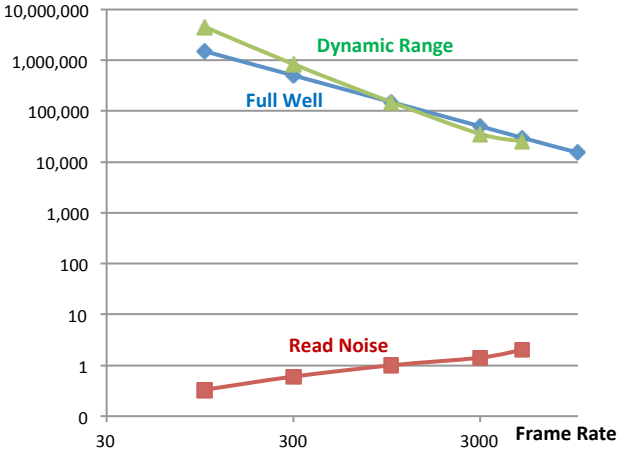
New!

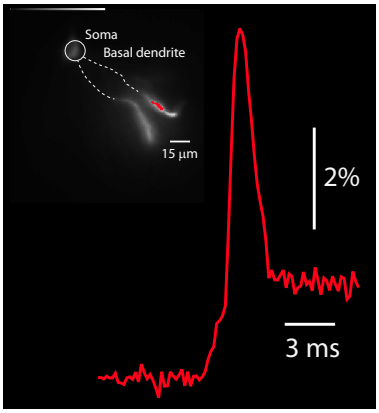
FastCMOS-128X

- e**X**tremely high frame rate.
- e**X**tremely low read noise.
- On-chip binning for enhanced frame rate and full well.
- Non-destructive read (NDR) for lower read noise when longer integration times are desired.
- No microlenses.
- For VSD, Ca^{2+}, single molecule imaging, ultra-high speed spectroscopy, and more.

Specifications

Active Pixels	128x128
Sensor Size	1.92x1.92mm^2
Pixel Size	15um
Max Pixel Readout Rate	200Mpix/sec
Maximum Frame Rate	10,000 fps @ full frame
Minimum Read Noise	< 1e-
Dark Current	0.1e-/pixel/msec @20°C
Max QE	65% @ 600nm
Maximum Dynamic Range	> 2,000,000:1
MTF @ Nyquist	55%
On-chip Windowing	y only (x off-chip)
Pixel Binning	1x1, 2x1, 2x2, 2x4… 2x64





Action potential signal at 5 kfps (Dejan Zecevic & Marko Popovic, Yale University)

Frame Rate vs Image Size	
10,000	128x128
20,000	128x64
40,000	128x32
30,000	64x64 binned
60,000	32x32 binned
120,000	32x16 binned

Read Noise vs Frame Rate	
10,000	30 e- (No CDS)
5,000	2.8 e- (CDS)
3,000	1.5 e- (CDS)
1,000	0.8 e- (NDR)
300	0.5 e- (NDR)
100	0.3 e- (NDR)

CDS – Correlated Double Sampling NDR – Non-Destructive Read