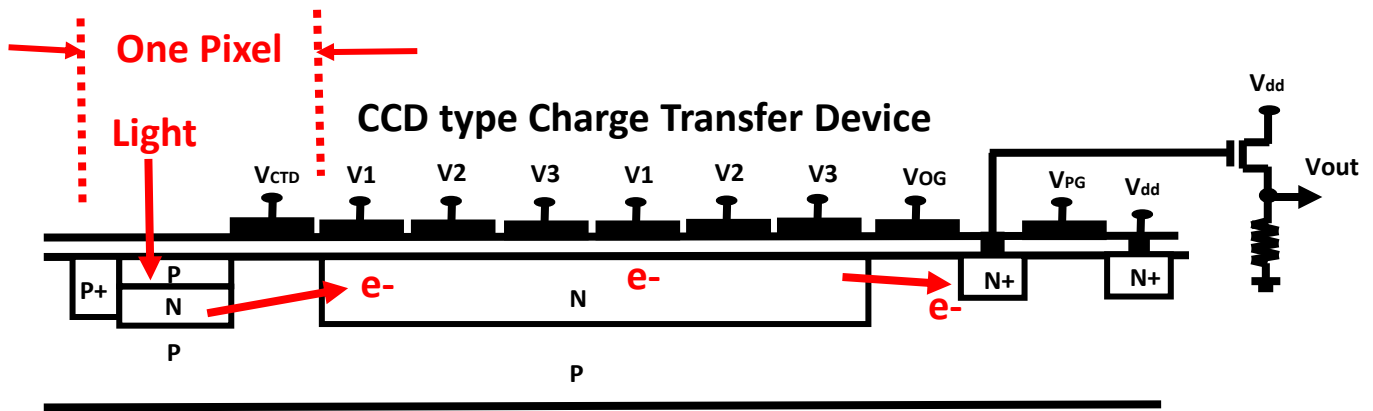
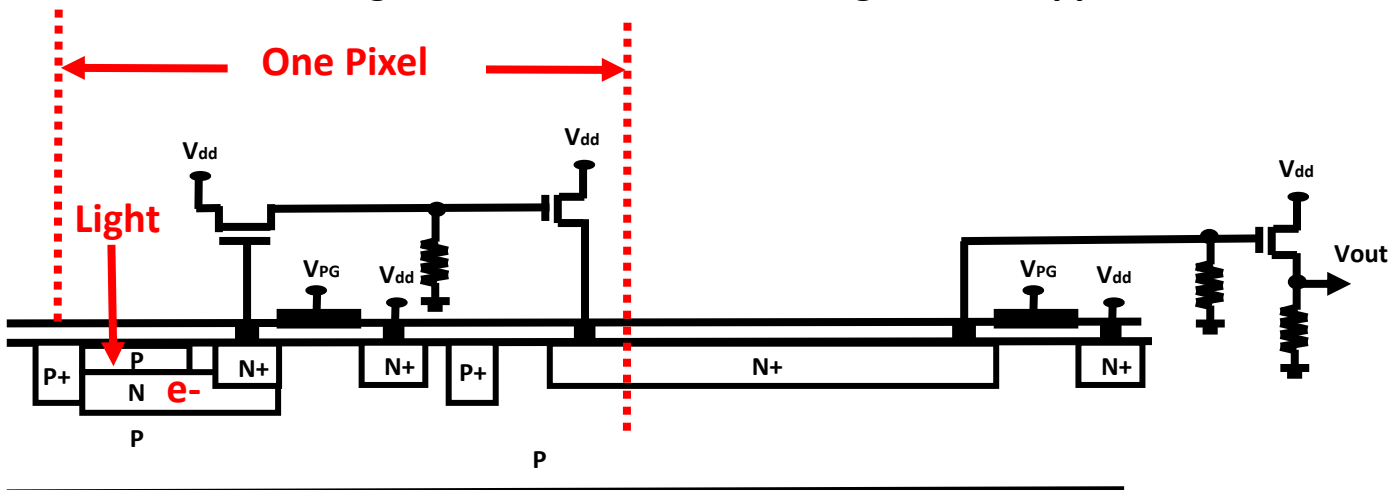


CCD type Charge Transfer Device can transfer one single photo electron to the output N+ floating diffusion region, which is connected with the metallic gate of the source-follower current-amplifier MOS output circuit.



CMOS Image Sensor has an in-pixel source-follower current-amplifier circuit. Thanks to the advancement of scaling CMOS process technology, CCD is no longer needed for modern image sensor applications.



Solar Cells do not need the source-follower current-amplifier used in CMOS image sensors nor the CCD type charge transfer device itself. The completely depleted N- region of the P+P-N-P+ double junction type Solar Cell shown below has a long empty potential well acting as a free space for photo electrons, being drained to the small outlet N+ region.

