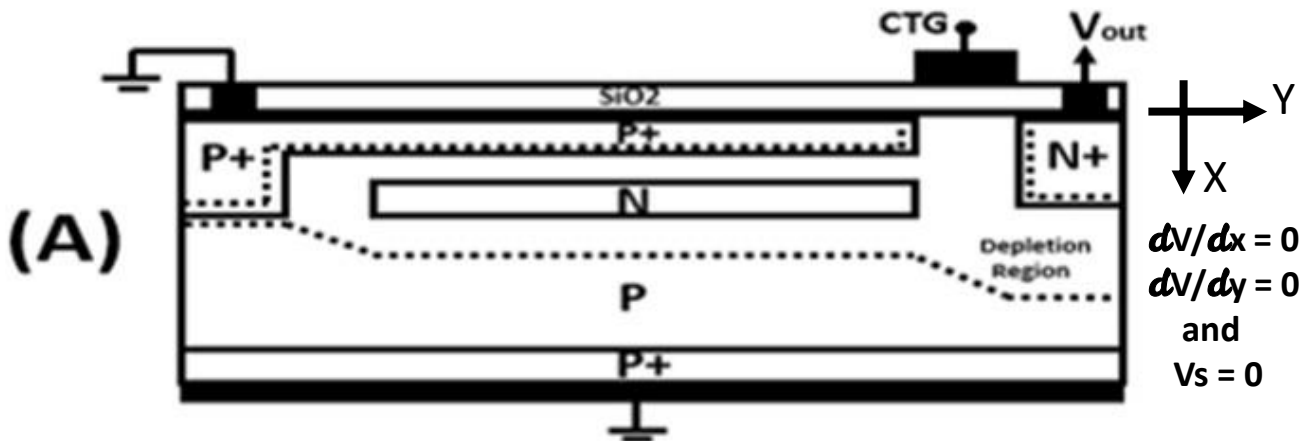
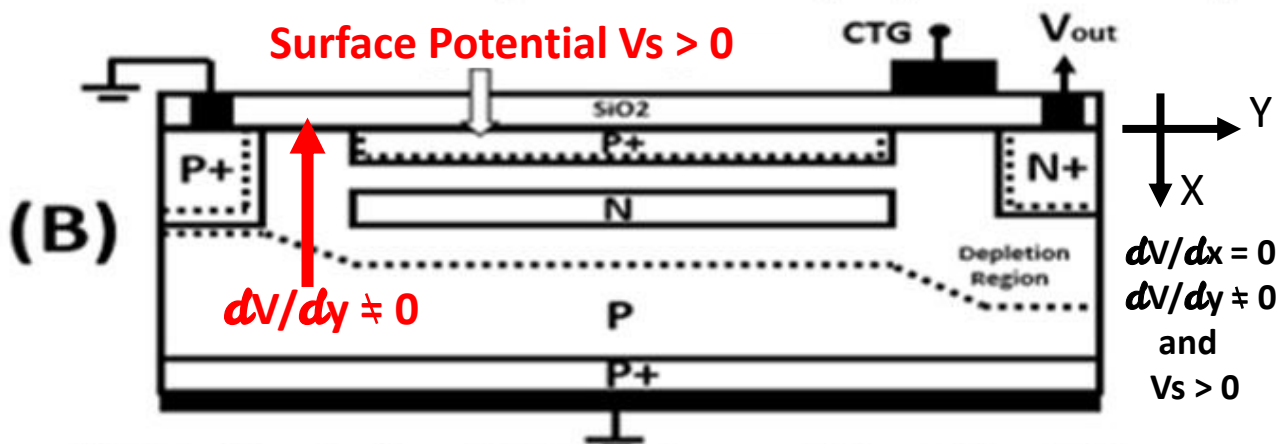


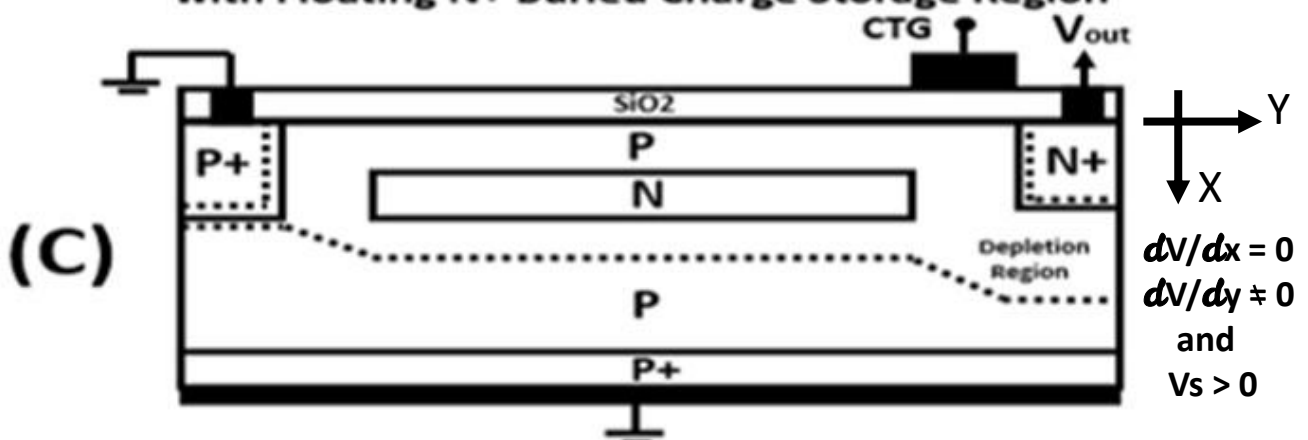
Difference of Buried Photodiode and Pinned Photodiode



(A) Pinned Surface Hole Accumulation Region, directly connected with the adjacent P+ heavily doped channel stops



(B) Floating Surface P+ Hole Accumulation ($V_{pp} > 0$) with Floating N+ Buried Charge Storage Region



(C) Floating Surface Buried Photodiode with Floating N+ Buried Charge Storage Region

(c) has a floating surface when the depletion region reaches the surface. The potential of the floating surface is controlled by the floating buried N storage region which is coupled with the swing voltage of the charge transfer gate (CTG) thru the parasitic oxide capacitance always.