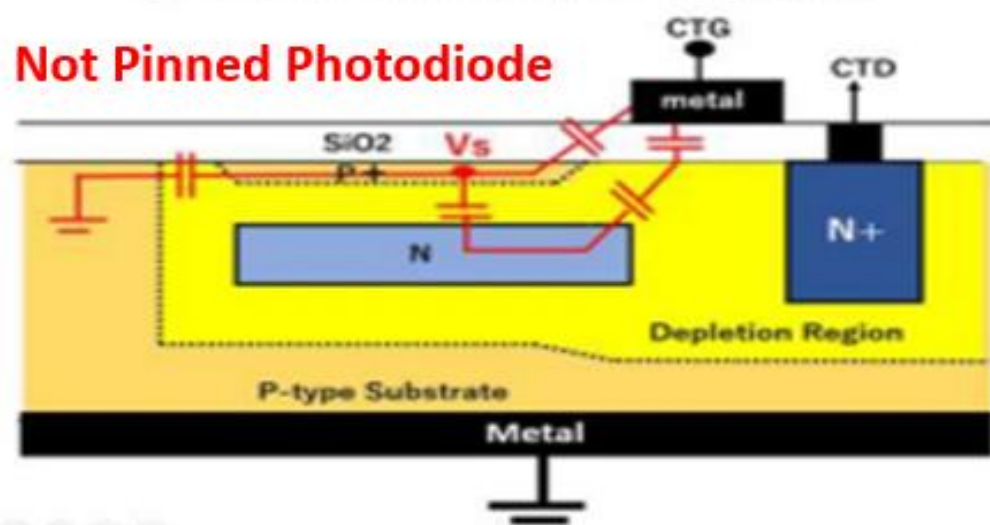


# Difference of Floating Surface PNP Buried Photodiode and Pinned Photodiode

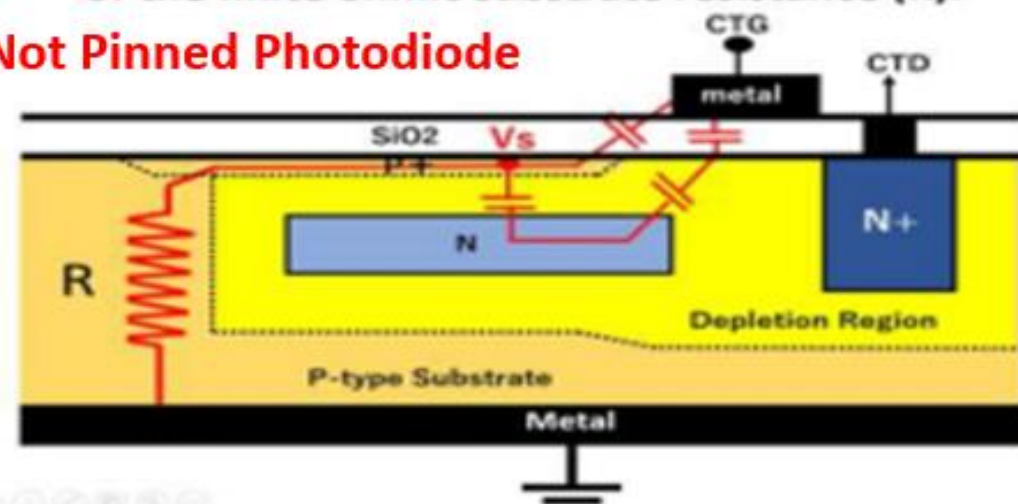
(a) Floating P+ Surface Completely Isolated by the extended depletion region

Not Pinned Photodiode



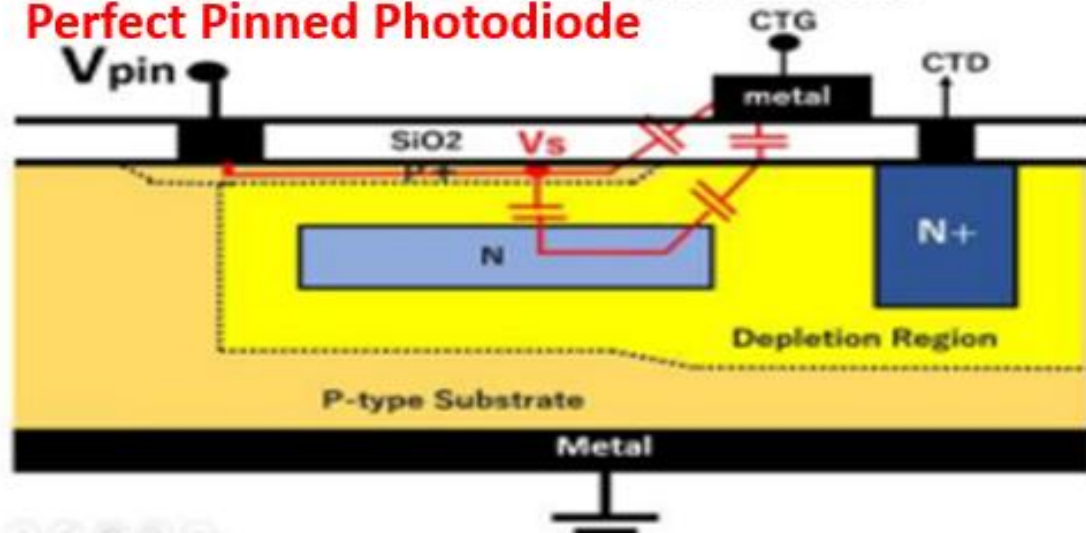
(b) Floating P+ Surface with RC Delay Time of the finite ohmic substrate resistance (R).

Not Pinned Photodiode



(c) Completely Pinned P+ Surface with  $RC = 0$  with Surface Direct Metal Contact.

Perfect Pinned Photodiode



(d) Completely Pinned P+ Surface with  $RC \sim 0$  with Adjacent Heavily Doped P+ Channel Stops

Pinned Photodiode

