

Invention and Historical Development Efforts of Pinned Buried Photodiode.

English Translation of JPA1975-134985

On a semiconductor substrate (N_{sub}), formig the first region (P) and also forming the second region (N) upon it, the photo detecting part is formed, from which the photo charge is tranfered to the charge transfer device placed along the semiconductor surface. On the second region a rectifying junction is formed and called as the emitter junction (J_e). A transistor structure is formed then with the collector junction (J_c) between the first region (N) and the seoncd region (P). The base region (N) of the transistor structure stores the signal charge according to the illuminated light intensity, from which photo charge is tranfered to charge transfer device.

Original Japanese Patent Claims JPA1975-134985

特許請求の範囲

半導体基体に、第1導電型の第1半導体領域と、之の上に形成された第2導電型の第2半導体領域とが形成されて光感知部と之よりの電荷を転送する電荷転送部とが上記半導体基体の主面に沿り如く配置されて成る固体撮像装置に於いて、上記光感知部の上記第2半導体領域に整流性接合が形成され、該接合をエミッタ接合とし、上記第1及び第2半導体領域間の接合をコレクタ接合とするトランジスタを形成し、該トランジスタのベースとなる上記第2半導体領域に光学像に応じた電荷を蓄積し、ここに蓄積された電荷を上記転送部に移行させて、その転送を行うりよりにしたことを特徴とする固体撮像装置。

Upside Down Mirror Image

Structure defined in JPA1275-134985

