

P+NP Double Junction
Dynamic Photo Transistor
Pinned Buried Photodiode

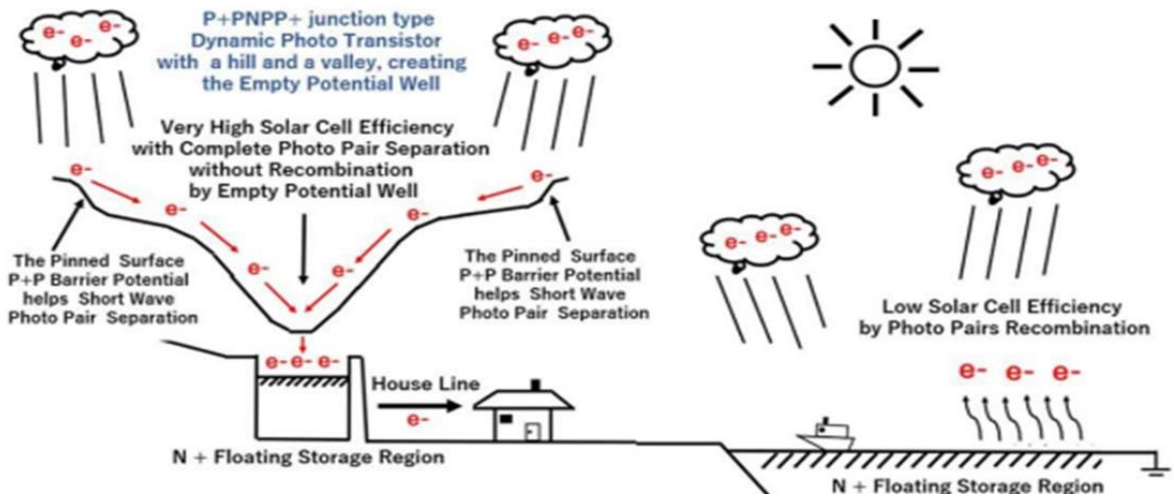
No Image Lag Problem

No Surface Dark
Current Noise

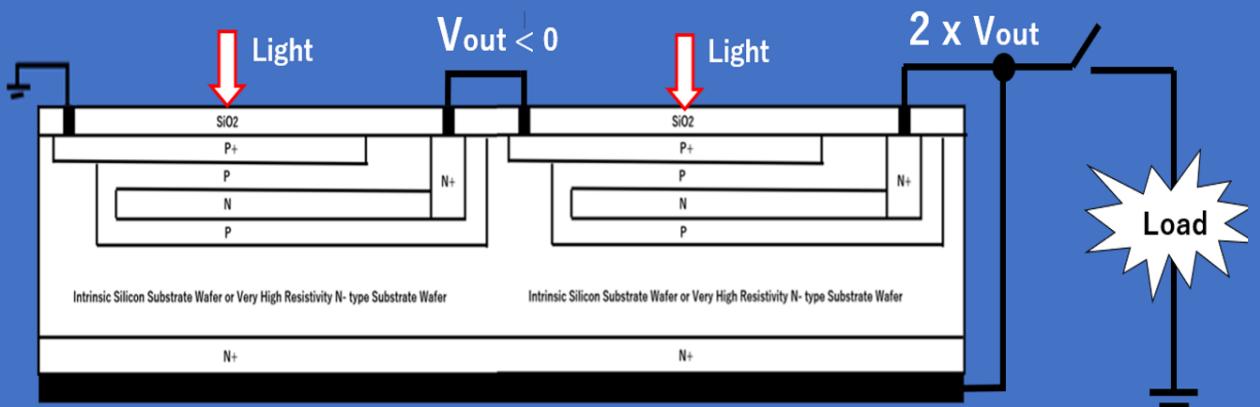
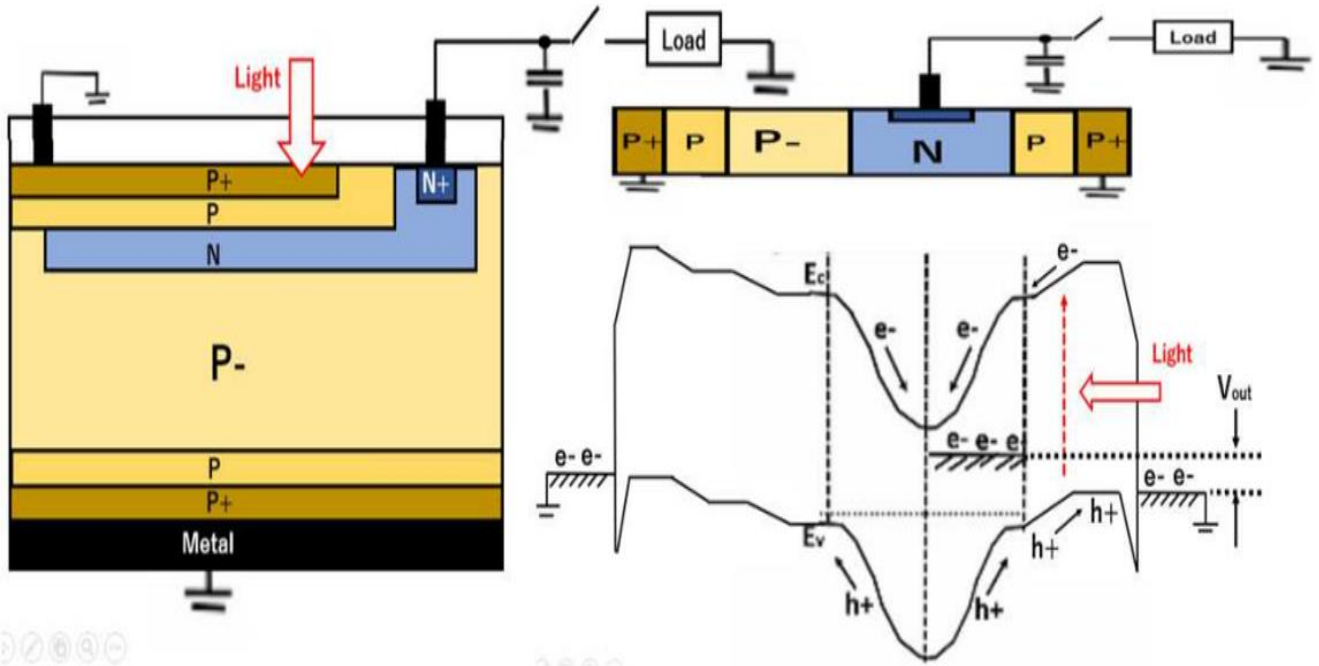
Excellent Short-Wave
Light Sensitivity

(2) Pinned Surface P+PNPP+ Double Junction Solar Cell

(1) Floating Surface N+P Single Junction Solar Cell



JPA2020-131313 invented by Hagiwara

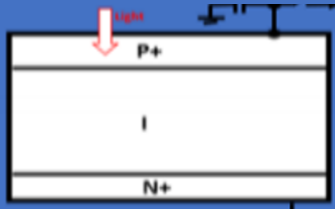


Two Units in Series Configuration of Pinned Buried PIN Photodiode type Solar Cell

Pinned Buried P+PNIP+ Photodiode Structure type Solar Cell JPA2020-131313 invented by Hagiwara

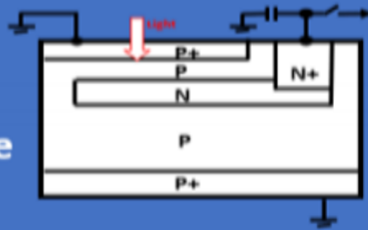
Exact Numerical Computation of
Pinned Surface P+P Barrier Potential

(1) PIN Diode

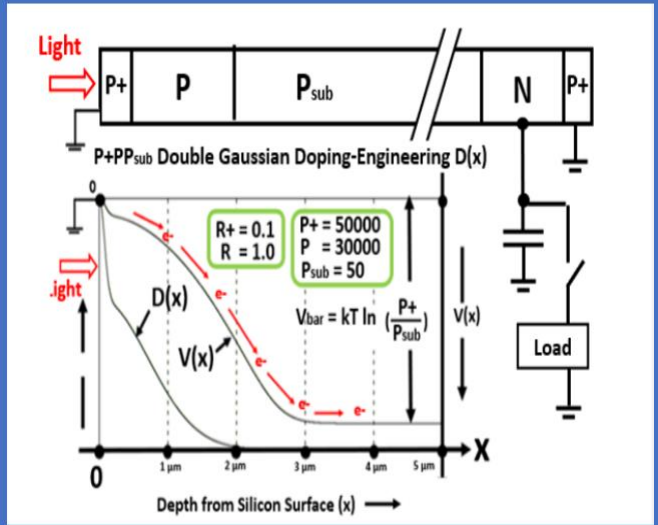


Jun-Ichi Nishizawa, 1950

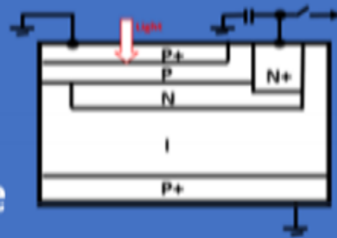
(2) Pinned Buried Photodiode



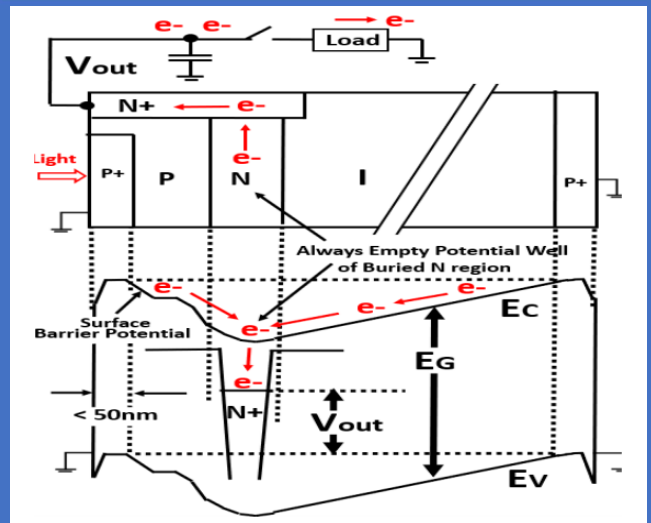
JPA2020-131313 by Hagiwara



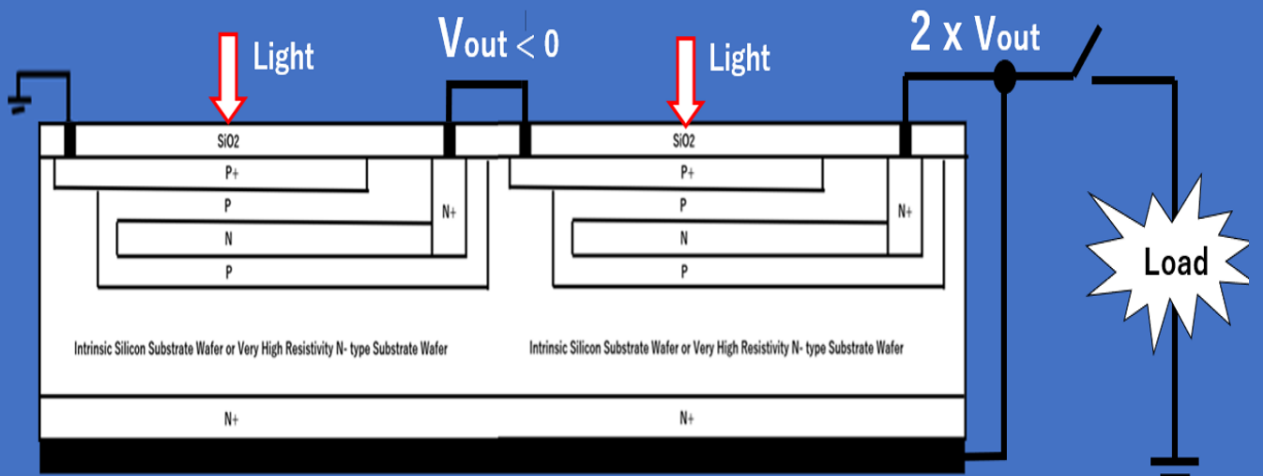
(3) Pinned Buried PIN Photodiode



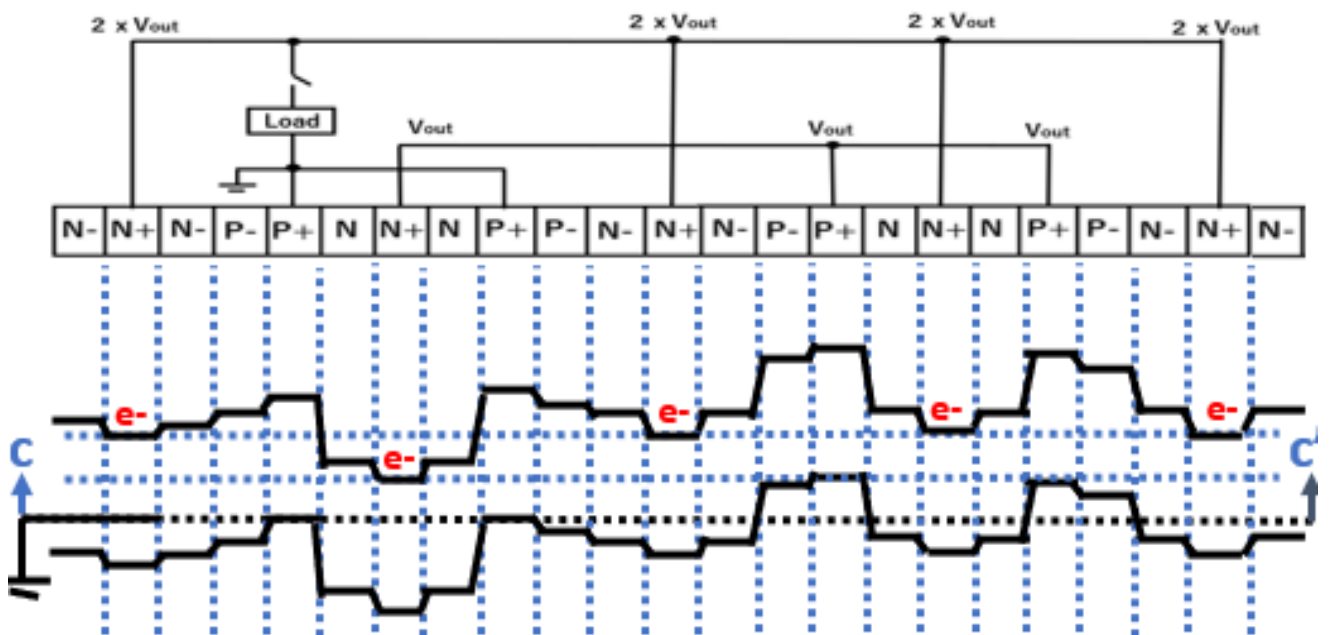
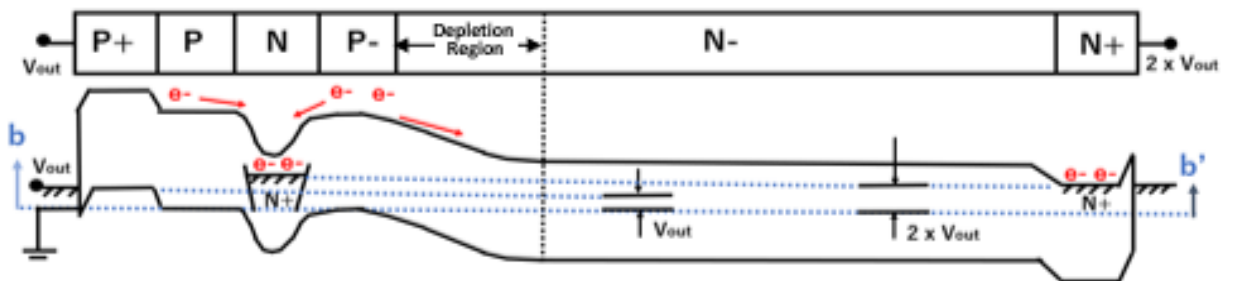
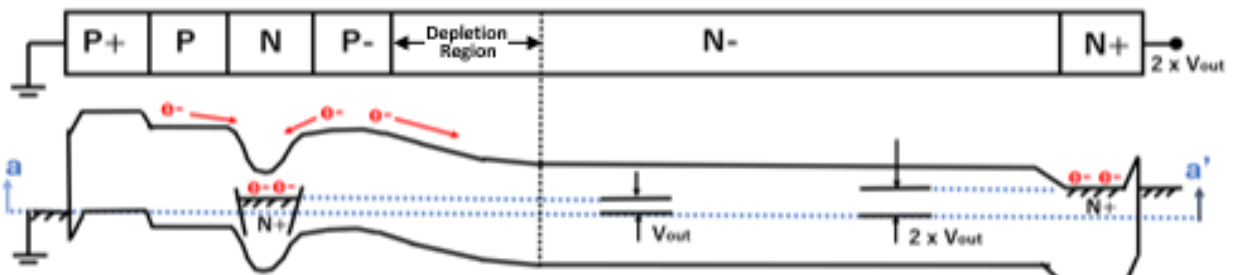
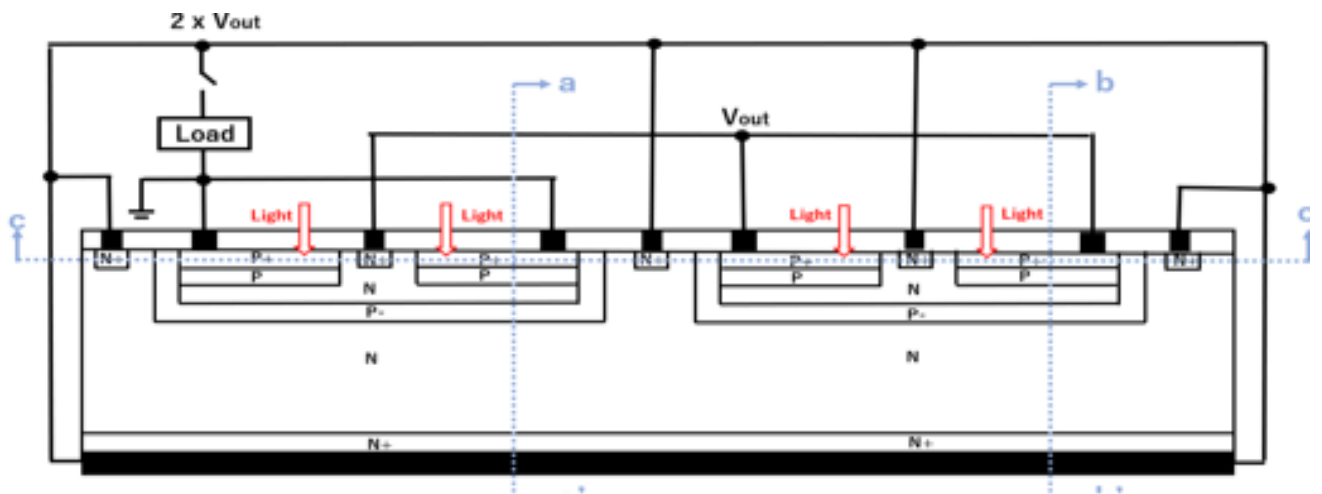
Yoshiaki Hagiwara, 2021

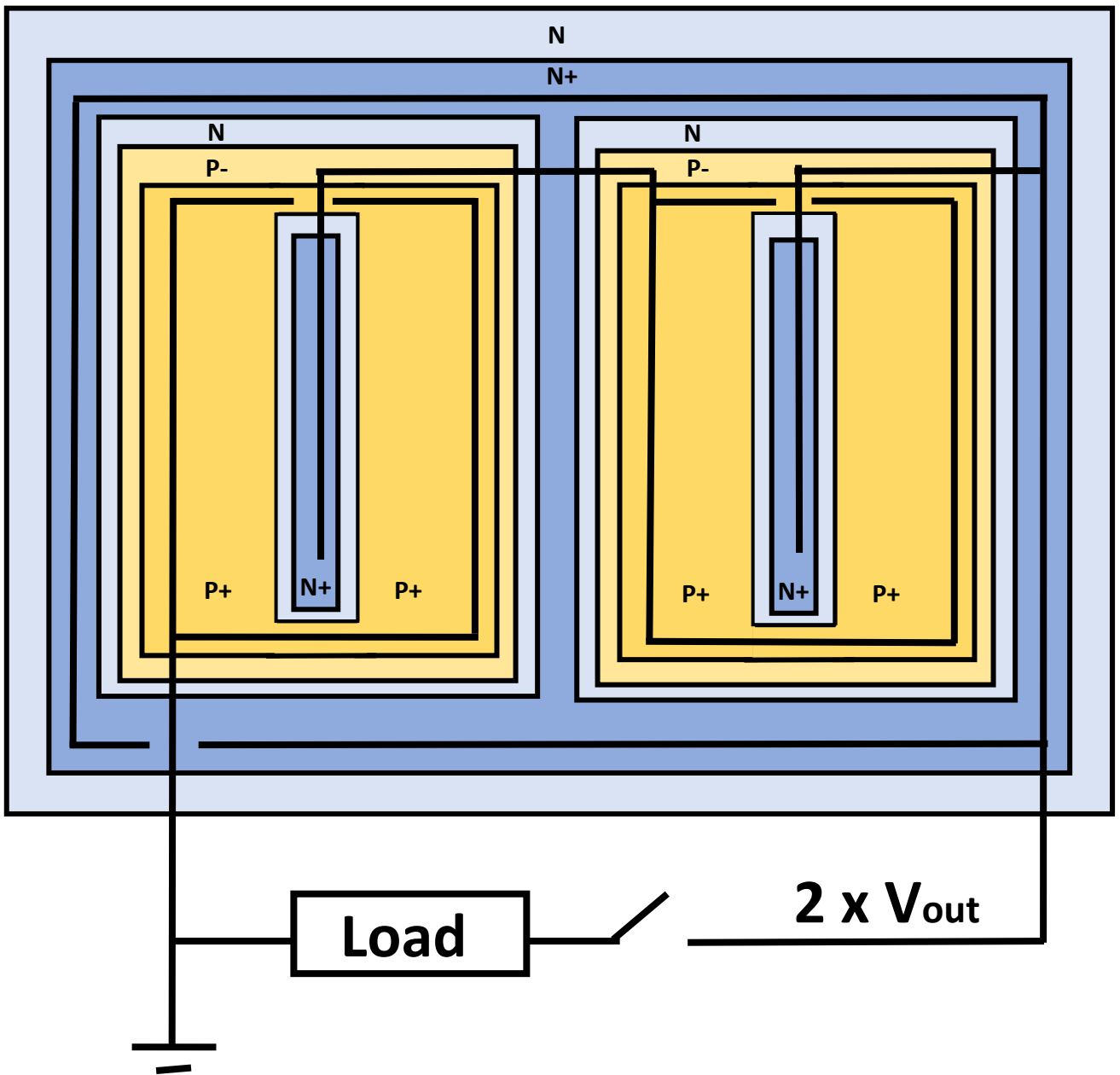
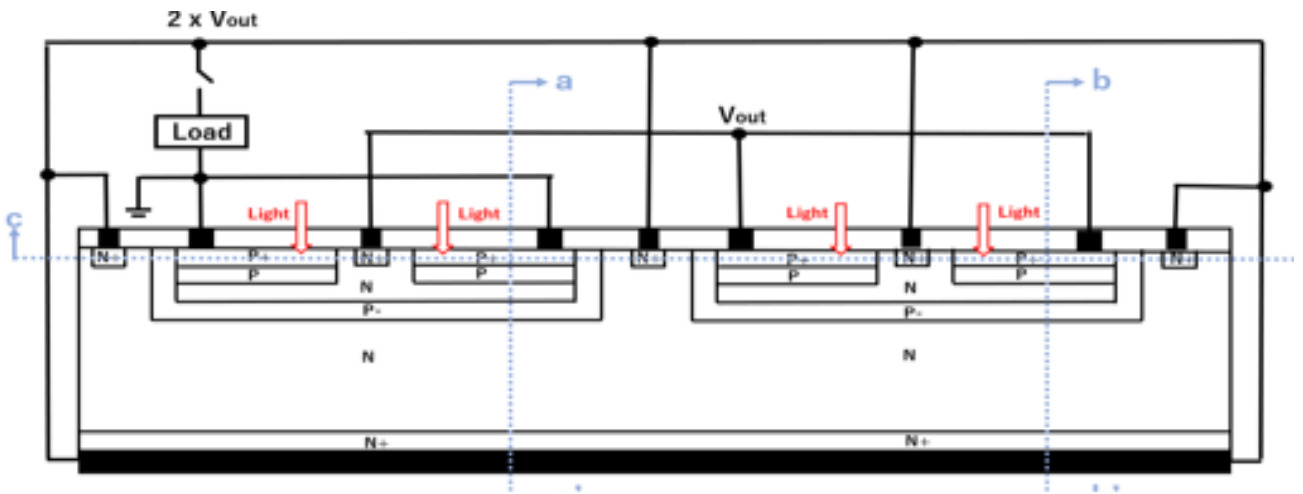


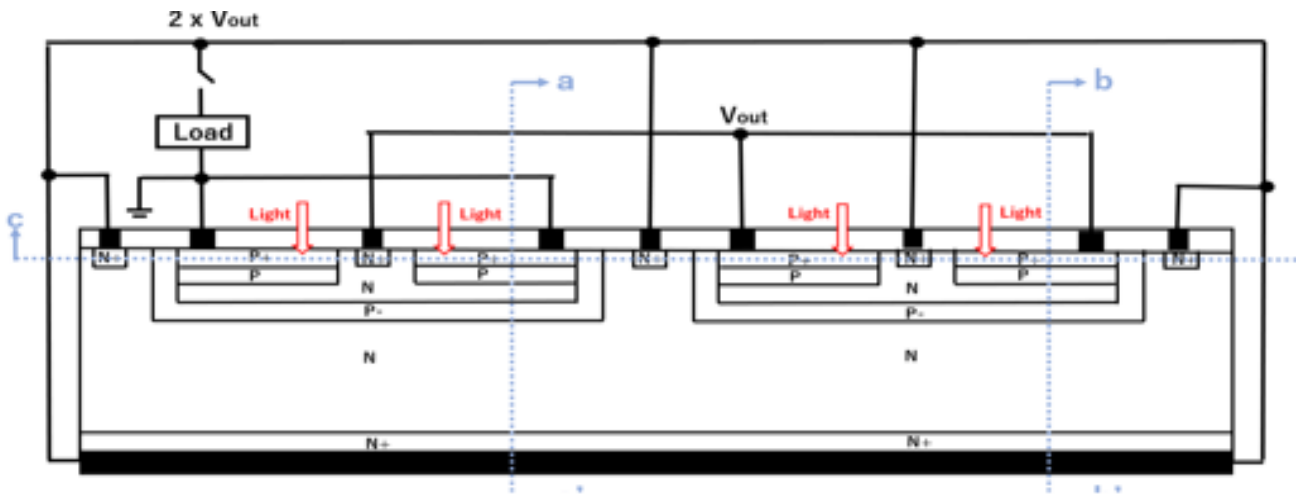
Band Diagram of Pinned Buried PIN Photodiode type Solar Cell



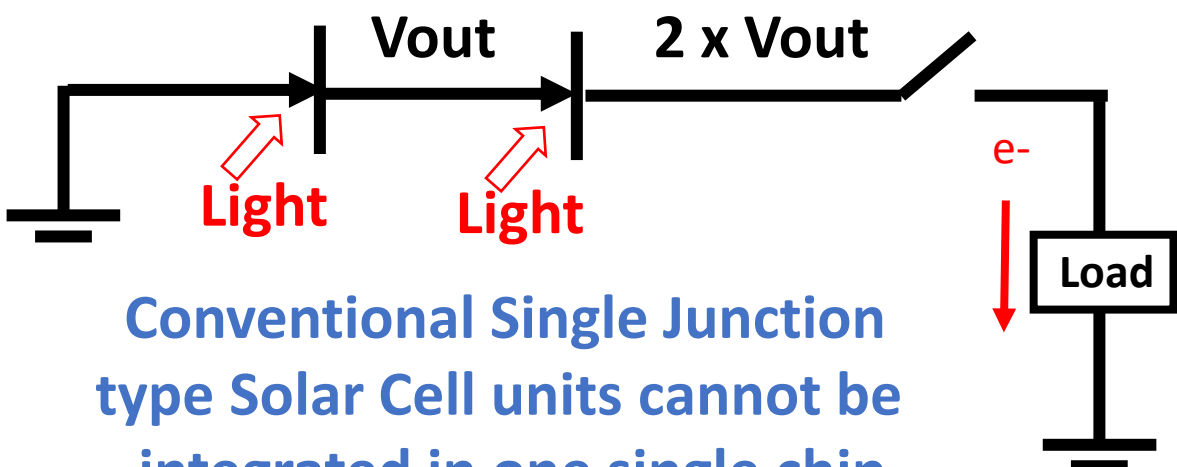
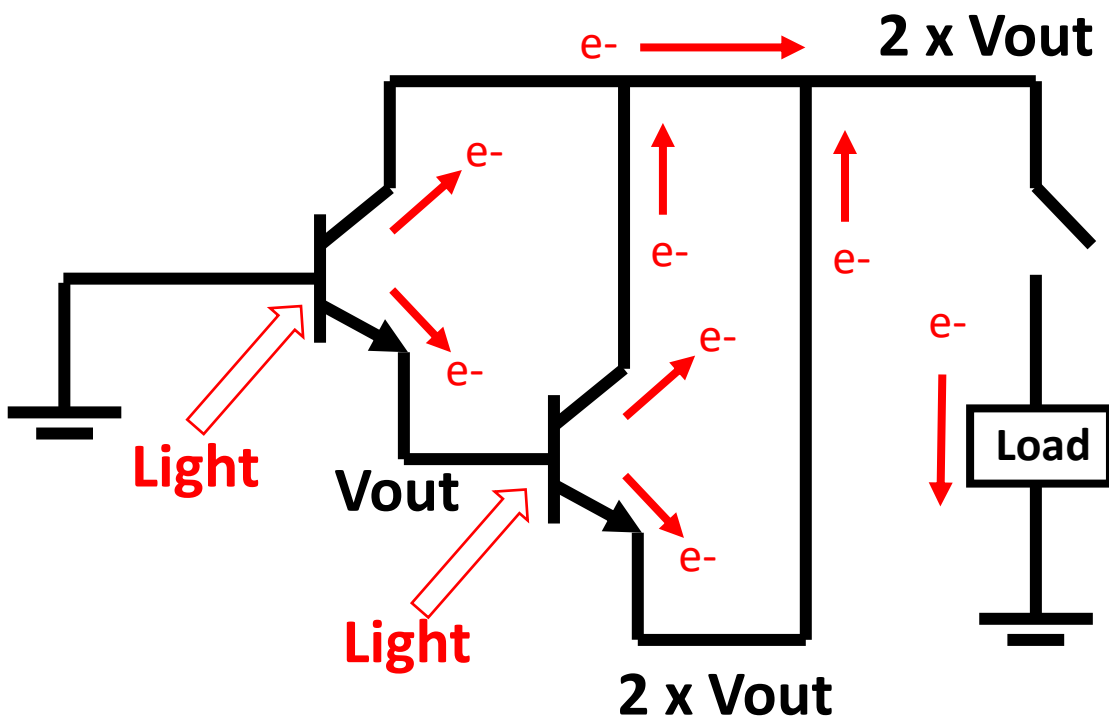
Two Units in Series Configuration of Pinned Buried PIN Photodiode type Solar Cell



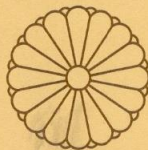




Double Junction type Solar Cell units can be integrated in series in one single chip.



Conventional Single Junction type Solar Cell units cannot be integrated in one single chip.



特許証
(CERTIFICATE OF PATENT)

特許第6818208号
(PATENT NUMBER)

発明の名称
(TITLE OF THE INVENTION)

光電変換半導体装置

特許権者
(PATENTEE)

神奈川県厚木市上荻野4313-1

萩原 良昭

発明者
(INVENTOR)

萩原 良昭

出願番号
(APPLICATION NUMBER)

特願2020-131313

出願日
(FILING DATE)

令和 2年 8月 1日(August 1, 2020)

登録日
(REGISTRATION DATE)

令和 3年 1月 5日(January 5, 2021)

この発明は、特許するものと確定し、特許原簿に登録されたことを証する。
(THIS IS TO CERTIFY THAT THE PATENT IS REGISTERED ON THE REGISTER OF THE JAPAN PATENT OFFICE.)

令和 3年 1月 5日(January 5, 2021)

特許庁長官
(COMMISSIONER, JAPAN PATENT OFFICE)

糟谷敏秀

