I. INTRODUCTION

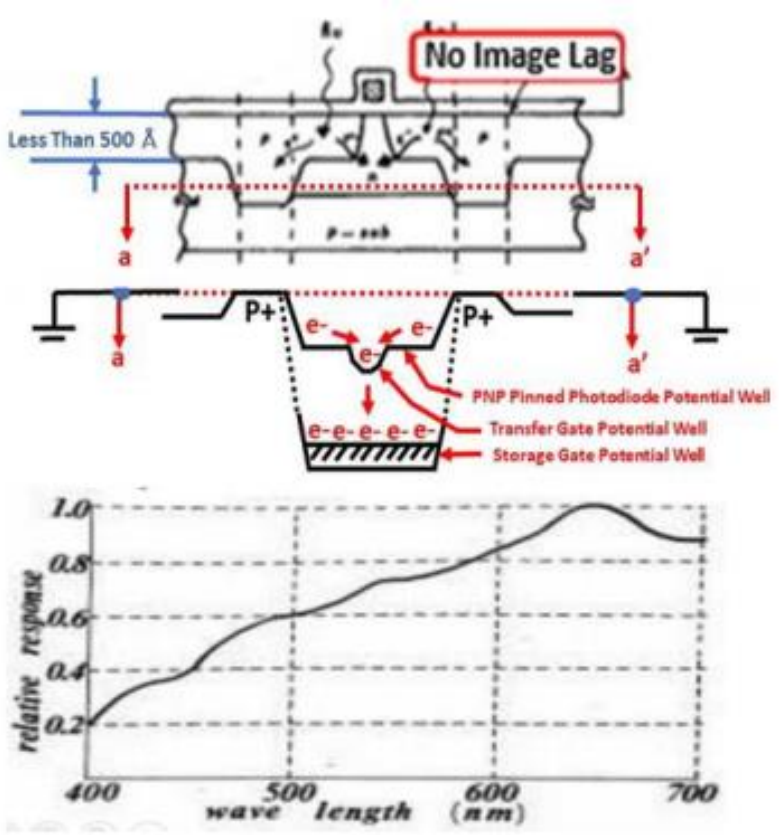

Fig. 9 Spectral Response of Pinned Buried Photodiode, reported at SSDM1978 in Tokyo. Sony had no image lag problem by 1980 using first all-CCD process and then this PNP Double junction Photo Transistor Process while all other companies suffered image lag problem with the N+P floating-surface single-junction type photo sensor with poor blue light sensitivity.

The photo signal charge is transferred and drained from the buried charge storage region with the no-image-lag feature and with the complete charge transfer capability, realizing a digital imaging snapshot camera and a fast action video camera with the electrical shutter function capability [4], free from any film and mechanical parts.

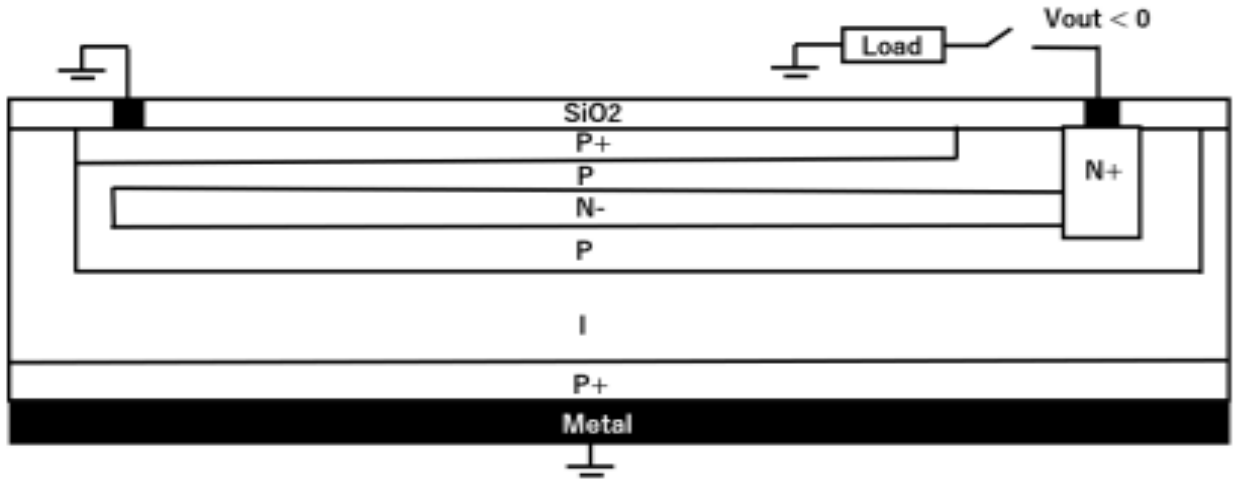

Fig. 3 Pinned PIN Photodiode type Solar Cell (Hagiwara.2021)

[8] Y. Hagiwara, Motoaki Abe and Chikara Okada,"A 380H X 488V CCD Imager with Narrow Channel Transfer Gates", Proceeding of the 10th Conference on Solid StateDevices, Tokyo 1978.

[4] http://www.aiplab.com/JPA_1977_126885_on_Electric_Shutter.html