

1975-85

Semiconductor History Museum of Japan

Improvement of photodiode for image sensor

(Sony, Hitachi, NEC, Toshiba)

~ Discrete Semiconductor/Others ~

Semiconductor History Museum of Japan says that Hagiwara invented Pinned Photodiode in 1975.

In 1978, Sony announced an FT (Frame Transfer) -CCD image sensor, using the photodiode with the same structure^[5]. Sony succeeded for the first time in the world in prototyping a VTR-integrated color movie camera using a 2 / 3-inch 280,000-pixel FT-CCD image sensor that developed this technology, in 1981^[6].

【5】Y. Hagiwara, M. Abe, and C. Okada, "A 380H x 488V CCD imager with narrow channel transfer gates", Proc. The 10th Conference on Solid State Devices, Tokyo, (1978): Japanese Journal of Applied Physics, vol. 18, Supplements 18-1, pp. 335-340, (1979)

【6】I. Kajino, M. Shimada, Y. Nakada, Y. Hirata and Y. Hagiwara, "Single Chip Color Camera Using Narrow channel CCD Imager with Over Flow Drain", Technical Report of The Institute of Image Information and Television Engineers, vol. 5, no. 29, pp. 32-3S, (1981)