Title (en)

CMOS LINEAR IMAGE SENSOR OPERATING BY CHARGE TRANSFER

Title (de)

DURCH LADUNGSTRANSFER ARBEITENDER CMOS-LINEARBILDSENSOR

Title (fr)

CAPTEUR D'IMAGE LINEAIRE CMOS A FONCTIONNEMENT DE TYPE TRANSFERT DE CHARGES

Publication

EP 2064868 A1 20090603 (FR)

Application

EP 07788469 A 20070817

Priority

• EP 2007058549 W 20070817
• FR 0608188 A 20060919

Abstract (en)

[origin: CA2663670A1] The invention relates to image sensors in the form of a signal-integratin g, moving multi-line linear array for the synchronized reading of the same l inear image in succession by N lines of P photo-sensitive pixels and the sum mation, pixel by pixel, of the signals read by the various lines. According to the invention, at the start of a photogenerated-charge integration time, the voltage is applied to the photodiode of the pixel of an intermediate lin e of rank i, this voltage being the output voltage of a pixel of a previous line of rank i-1, the photodiode is isolated, the charges due to the light a re integrated therein and, finally, at the end of integration time, the char ges on the photodiode are transferred to a storage node (N2) of the pixel. A charge-voltage conversion circuit (T4, T5) converts the charges on the stor age node into a pixel output voltage. Thus, before photogenerated charges ar e integrated in each pixel, the photodiode receives a charge equivalent to a n accumulation of charges coming from the previous pixel lines that observed the same line of the scene.

IPC 8 full level

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CPC (source: EP US)

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