

Title (en)

ELECTRON MULTIPLYING IMAGE SENSOR AND PIXEL READING ARRANGED IN A GROUP

Title (de)

IN EINER GRUPPE ANGEORDNETER ELEKTRONENVERVIELFACHENDER BILDSSENSOR MIT PIXELAUSLESUNG

Title (fr)

CAPTEUR D'IMAGE À MULTIPLICATION D'ÉLECTRONS ET À LECTURE REGROUPEE DE PIXELS

Publication

**EP 3058718 A1 20160824 (FR)**

Application

**EP 14781892 A 20141009**

Priority

- FR 1359933 A 20131014
- EP 2014071655 W 20141009

Abstract (en)

[origin: WO2015055501A1] The invention relates to image sensors enabling the acquisition of electronic images at very low light level. The image sensor can read pixels individually or by arranging the charges of four adjacent pixels in a group for increased sensitivity. Two photodiodes of a same column (PH21, PH22) can transfer the charges thereof in a same multiplication grid (GM1), the two pixels of the adjacent column transferring the charges thereof in a second multiplication grid (GM2). A multiplication phase can be carried out by an alternation of potentials with opposite phase, applied to the multiplication grids. The reading structures associated each with one of the multiplication grids enable the charges of each one of the four photodiodes or the combined charges of the four photodiodes to be read.

IPC 8 full level

**H04N 5/3745** (2011.01); **H01L 27/146** (2006.01); **H04N 5/347** (2011.01); **H04N 5/355** (2011.01)

CPC (source: EP US)

**H01L 27/14609** (2013.01 - EP US); **H01L 27/14638** (2013.01 - US); **H01L 27/14641** (2013.01 - EP US); **H01L 27/14643** (2013.01 - US); **H04N 25/46** (2023.01 - EP US); **H04N 25/57** (2023.01 - EP US); **H04N 25/75** (2023.01 - US); **H04N 25/77** (2023.01 - EP US); **H04N 25/778** (2023.01 - EP US)

Citation (search report)

See references of WO 2015055501A1

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Designated extension state (EPC)

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