

Title (en)

IMAGE SENSOR HAVING IMPROVED QUANTUM EFFICIENCY AT LARGE WAVELENGTHS

Title (de)

BILDSSENSOR MIT VERBESSERTER QUANTENEFFIZIENZ BEI GROSSEN WELLENLÄNGEN

Title (fr)

CAPTEUR D'IMAGE A EFFICACITE QUANTIQUE AMELIOREE DANS LES GRANDES LONGUEURS D'ONDE

Publication

EP 2909861 A1 20150826 (FR)

Application

EP 13776834 A 20131016

Priority

- FR 1259947 A 20121018
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Abstract (en)

[origin: WO2014060479A1] The invention relates to an image sensor particularly suitable for low-light vision (particularly night vision). The sensor is formed on an integrated circuit (IC) chip from a silicon substrate and includes: an array (MP) of rows and columns of active pixels, each including at least one photodiode and transistors; and circuits (CTRL) for controlling said array, located outside the array, and signal reading circuits (RD) located outside the array. The photodiodes of the sensor are formed in an active monocrystalline silicon layer, the resistivity of which is at least 500 ohms/cm if said active layer is an epitaxial layer on the silicon substrate and at least 2,000 ohms/cm if said active layer consists of the top portion of the silicon substrate. The control circuits (CTRL) and the circuits (RD) for reading the sensor are formed in at least one doped total casing (DPW) of the same type as the active monocrystalline silicon layer and having a resistivity no higher than 30 ohms/cm. Said casing is formed in the active layer and does not include the array.

IPC 8 full level

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CPC (source: EP US)

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US 2007120131 A1 20070531 - HASEGAWA AKIHIRO [JP], et al

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