Title (en)

PHOTODETECTOR CIRCUIT

Title (de)

PHOTODETECTORSCHALTUNG

Title (fr)

CIRCUIT PHOTODETECTEUR

Publication

EP 1012883 A1 20000628 (EN)

Application

EP 98925866 A 19980615

Priority

- GB 9801734 W 19980615
- GB 9712368 A 19970616

Abstract (en)

[origin: CA2290965A1] A photodetector circuit (100) fabricated in BiCMOS exhibits improved temperature stability. A bipolar phototransistor (200) generates a photocurrent (Ibi) in response to illumination. This photocurrent (Ibi) is passed through a diode connected load MOSFET (114) operating subthreshold which gives a logarithmic voltage output. This ensures a large dynamic range of the photon detection system. The phototransistor (200) has gain (.beta.) which amplifies an initial current response and ensures that current Ibi) through the load MOSFET (114) is significantly higher than MOSFET leakage current. This improves performance at high temperatures when the leakage current is large, whilst maintaining photodetector sensitivity to low illumination levels. The photodetector circuit (100) is particularly suitable for incorporation in a detector array (315) for use in a digital camera.

IPC 1-7

H01L 27/146

IPC 8 full level

H01L 27/146 (2006.01); **H03F 1/30** (2006.01); **H04N 3/15** (2006.01); **H04N 5/335** (2006.01); **H04N 5/355** (2011.01)

CPC (source: EP KR)

H01L 27/146 (2013.01 - KR); **H03F 1/301** (2013.01 - EP); **H04N 25/573** (2023.01 - EP)

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GB 2326784 A 19981230; **GB 9712368 D0 19970813**; CA 2290965 A1 19981223; EP 1012883 A1 20000628; GB 2340600 A 20000223; GB 2340600 B 20010919; GB 9926002 D0 20000112; JP 2002508119 A 20020312; KR 20010013810 A 20010226; WO 9858411 A1 19981223

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