

Title (en)  
PHOTODETECTOR CIRCUIT

Title (de)  
PHOTODETEKTOR-SCHALTKREIS

Title (fr)  
CIRCUIT PHOTODETECTEUR

Publication  
**EP 1472739 A1 20041103 (EN)**

Application  
**EP 02704895 A 20020208**

Priority  
GB 0200526 W 20020208

Abstract (en)  
[origin: WO03067663A1] A photodetector circuit incorporates an avalanche photodiode (APD) (300) produced by epitaxy on a CMOS substrate (302) with implanted n-well (304) and p-well (306). The n-well (304) has an implanted p+ guard ring (310) delimiting the APD (300). Within the guard ring (310) is an implanted n+ APD layer (312) upon which is deposited an epitaxial p+ APD layer (314), these layers forming the APD (300). The APD may be incorporated in an amplifier circuit (50) providing feedback to maintain constant bias voltage, and may include an SiGe absorption region to provide extended long wavelength response or lower avalanche voltage. Non-avalanche photodiodes may also be used.

IPC 1-7  
**H01L 27/146**; H01L 31/0312; H01L 31/107

IPC 8 full level  
**H01L 27/146** (2006.01); **H01L 31/0312** (2006.01); **H01L 31/10** (2006.01); **H01L 31/107** (2006.01); **H04N 5/335** (2006.01)

CPC (source: EP)  
**H01L 27/14609** (2013.01); **H01L 27/14643** (2013.01); **H01L 31/0312** (2013.01); **H01L 31/107** (2013.01)

Citation (search report)  
See references of WO 03067663A1

Designated contracting state (EPC)  
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

DOCDB simple family (publication)  
**WO 03067663 A1 20030814**; AU 2002238699 A1 20030902; EP 1472739 A1 20041103; JP 2005517300 A 20050609; JP 4037367 B2 20080123

DOCDB simple family (application)  
**GB 0200526 W 20020208**; AU 2002238699 A 20020208; EP 02704895 A 20020208; JP 2003566903 A 20020208