

Title (en)
MULTI-COLOR, MULTI-FOCAL PLANE OPTICAL DETECTOR

Title (de)
OPTISCHER MEHRFARBENDETEKTOR MIT MEHREREN BILDEBENEN

Title (fr)
DETECTEUR OPTIQUE PLAT MULTICOLORE MULTIFOCAL

Publication
EP 1254483 A4 20080305 (EN)

Application
EP 00990331 A 20001222

Priority
• US 0035162 W 20001222
• US 17307799 P 19991224
• US 25667500 P 20001218

Abstract (en)
[origin: WO0148831A1] A semiconductor-based, photodetector device capable of simultaneously detecting two or more selected wavelengths of light on a pixel-registered basis. The device has detector layers (20, 40) of selected semiconductor materials of one micron or less in thickness interspersed with contact layers (10, 30, 50). Each detector layer (20, 40) having a different light absorption to wavelength response curve (LM1, LM2). All contact layers (10, 30, 50), including detector bias voltages, have electrical contacts (11, 31, 51) on the backside of the pixel for discrete pixel connection to mating connection on a suitable ROIC substrate (70). Among its several embodiments, there is a multi-color detector array and a single channel per pixel differential optical signal detector.

IPC 8 full level
H01L 31/0232 (2006.01); **H01L 31/0352** (2006.01); **H01L 31/101** (2006.01); **H01L 31/103** (2006.01); **H01L 31/0216** (2006.01)

CPC (source: EP)
H01L 31/101 (2013.01); **H01L 31/1035** (2013.01); **H01L 31/02165** (2013.01)

Citation (search report)
• [XY] US 5552603 A 19960903 - STOKES BURNHAM [US]
• [XA] EP 0849798 A1 19980624 - THOMSON CSF [FR]
• [A] WO 9809141 A2 19980305 - CALIFORNIA INST OF TECHN [US]
• [A] US 5506419 A 19960409 - LEVINE BARRY F [US], et al
• [Y] TIDROW M Z ET AL: "GRATING COUPLED MULTICOLOR QUANTUM WEL INFRARED PHOTODETECTORS", APPLIED PHYSICS LETTERS, AIP, AMERICAN INSTITUTE OF PHYSICS, MELVILLE, NY, US, vol. 67, no. 13, 25 September 1995 (1995-09-25), pages 1800 - 1802, XP002937734, ISSN: 0003-6951
• [A] ANDERSSON J Y ET AL: "NEAR-UNITY QUANTUM EFFICIENCY OF ALGAAS/GAAS QUANTUM WELL INFRARED DETECTORS USING A WAVEGUIDE WITH A DOUBLY PERIODIC GRATING COUPLER", APPLIED PHYSICS LETTERS, AIP, AMERICAN INSTITUTE OF PHYSICS, MELVILLE, NY, US, vol. 59, no. 7, 12 August 1991 (1991-08-12), pages 857 - 859, XP000233772, ISSN: 0003-6951
• [A] ANDERSSON J Y ET AL: "GRATING-COUPLED QUANTUM-WELL INFRARED DETECTORS: THEORY AND PERFORMANCE", JOURNAL OF APPLIED PHYSICS, AMERICAN INSTITUTE OF PHYSICS. NEW YORK, US, vol. 71, no. 7, 1 April 1992 (1992-04-01), pages 3600 - 3610, XP002937735, ISSN: 0021-8979
• See references of WO 0148831A1

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