

Title (en)
REFLECTIVE LAYER BURIED IN SILICON AND METHOD OF FABRICATION

Title (de)
IM SILICIUM VERGRABENE, REFLEKTIERENDE SCHICHT UND VERFAHREN ZU DERENHERSTELLUNG

Title (fr)
COUCHE DE REFLEXION ENTERREE DANS LE SILICIUM ET PROCEDE DE FABRICATION

Publication
EP 1226612 A4 20070124 (EN)

Application
EP 00946759 A 20000505

Priority
• US 0012287 W 20000505
• US 13285499 P 19990506

Abstract (en)
[origin: WO0067891A2] A silicon wafer having a distributed Bragg reflector buried within it. The buried reflector provides a high efficiency, readily and accurately manufactured reflector with a body of silicon. A photodetector using the buried layer to form a resonant cavity enhancement of the silicon's basic quantum efficiencies and selectivity is provided. The DBR is created by bonding of two or more substrates together at a silicon oxide interface or an oxide-oxide interface. In the former, a hydrogen implant is used to cleave silicon just above the bond line. In the latter, the bonding is at the oxide layers.
[origin: WO0067891A2] A silicon wafer (12) having a distributed Bragg reflector (14) buried within it. The buried reflector provides a high efficiency, readily and accurately manufactured reflector with a body of silicon. A photodetector using the buried layer to form a resonant cavity enhancement of the silicon's basic quantum efficiencies and selectivity is provided. The DBR (14) is created by bonding of two or more substrates (20, 26) together at a silicon oxide interface (22) or an oxide-oxide interface. In the former, a hydrogen implant is used to cleave silicon just above the bond line. In the latter, the bonding is at the oxide layers.

IPC 1-7
H01L 33/00

IPC 8 full level
H01L 31/0232 (2014.01); **H01L 31/052** (2006.01); **H01L 31/056** (2014.01)

CPC (source: EP)
H01L 31/02327 (2013.01); **H01L 31/056** (2014.12); **Y02E 10/52** (2013.01)

Citation (search report)
• [A] US 5315128 A 19940524 - HUNT NEIL E J [US], et al
• [A] US 5389797 A 19950214 - BRYAN ROBERT P [US], et al
• [A] WO 9639719 A1 19961212 - SECR DEFENCE [GB], et al
• See references of WO 0067891A2

Citation (examination)
US 5877509 A 19990302 - PAU STANLEY [DE], et al

Designated contracting state (EPC)
DE FR GB

DOCDB simple family (publication)
WO 0067891 A2 20001116; **WO 0067891 A3 20020523**; **WO 0067891 A9 20020418**; AU 6046600 A 20001121; EP 1226612 A2 20020731; EP 1226612 A4 20070124

DOCDB simple family (application)
US 0012287 W 20000505; AU 6046600 A 20000505; EP 00946759 A 20000505