United States Patent [19]

Kolbas

[11] **Patent Number: 4,532,694**

[45] **Date of Patent: Aug. 6, 1985**

[54] **METHOD OF FABRICATING EMITTER/DETECTOR-IN-A-WELL FOR THE INTEGRATION OF ELECTRONIC AND OPTOELECTRONIC COMPONENTS**

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[21] Appl. No.: **507,846**

[22] Filed: **Jun. 27, 1983**

Related U.S. Application Data

[62] Division of Ser. No. 272,603, Jun. 11, 1981, abandoned.

[51] **Int. Cl.**[3] **H01L 21/20**; H01L 21/208

[52] **U.S. Cl.** ..... **29/569 L**; 29/572; 29/576 E; 29/580; 148/171; 148/175; 148//DIG. 50; 148/DIG. 72; 357/16; 357/17; 357/30

[58] **Field of Search** ..... 29/569 L, 572, 580, 29/576 E; 148/171, 175, DIG. 50, DIG. 72; 357/16, 17, 30

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[57] **ABSTRACT**

Integration of optoelectronic component and electronic components in a planar surface of a semi-insulating substrate such as gallium arsenide. A depression is etched into the planar surface to contain the transverse junction stripe laser structure which is grown by epitaxial layers. In the resulting structure the surface of the epitaxial layers forms a portion of the planar surface, thus placing the electrical and optical elements on or at the planar surface to facilitate fabrication and testing.

12 Claims, 5 Drawing Figures