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United States Patent [19] Schubert

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[54] **SEMICONDUCTOR HAVING ENHANCED ACCEPTOR ACTIVATION**

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[57] **ABSTRACT**

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A semiconductor having enhanced acceptor activation is disclosed. The semiconductor comprises a ternary compound having a non-abruptly varying composition that is uniformly doped. The modulation of the chemical composition leads to a variation of the valence band energy. The modulation of the valence band results in a strong enhancement of the acceptor activation. A method for making a semiconductor having enhanced acceptor activation comprises two steps. They are (1) forming a ternary compound semiconductor having a non-abruptly varying composition, and (2) uniformly doping said semiconductor with a dopant. These two steps may be conducted simultaneously.

Related U.S. Application Data

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[52] **U.S. Cl.** **257/191**; 257/14; 257/15; 257/17; 257/22; 257/97

[58] **Field of Search** 257/17, 15, 14, 257/22, 97, 13, 191

[56] **References Cited**

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10 Claims, 4 Drawing Sheets

