SEMICONDUCTOR HAVING ENHANCED ACCEPTOR ACTIVATION

Assignee: Trustees of Boston University, Boston, Mass.

Filed: Aug. 22, 1997

Primary Examiner—Jerome Jackson, Jr.
Attorney, Agent, or Firm—Samuels, Gauthier & Stevens, LLP

ABSTRACT

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.