SYMPOSIUM G
Integration of Heterogeneous Thin-Film Materials and Devices
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with a low-doped emitter and a high Ge concentration in the base adjacent to the base-emitter junction. The resulting high injection of holes at low temperature alleviates the parasitic capacitance of the base-emitter junction and improves the performance of the device. The germanium content in the base is limited to a few percent to avoid non-radiative recombinations.

In the case of these heterojunction bipolar transistors (HBTs), the base-emitter contact is made by alloying a thin layer of silicon on the Ge layer.

The germanium concentration is typically around 10%.

To further improve the performance of these devices, it is essential to optimize the epitaxial growth process and the device fabrication techniques.

Ge is a heavily doped, high-mobility material that is well-suited for high-speed electronics applications. The use of germanium in heterojunction bipolar transistors (HBTs) allows for the fabrication of high-performance, low-power electronics.

In conclusion, the integration of germanium into silicon-based devices promises significant advancements in the field of electronics, particularly in high-performance and low-power applications.

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