

METHOD FOR FABRICATING HETEROJUNCTION BIPOLAR TRANSISTORS

ABSTRACT

Fabricating a heterojunction bipolar transistor having collector, base and emitter regions involves forming a silicon epitaxial layer (120) defining the collector region upon a substrate (112). An oxide stack (122) is formed upon the silicon epitaxial layer (120) and a nitride layer (128) is then formed upon the oxide stack (122). Next, an emitter opening is defined within the nitride layer (128) before a base cavity (134) is formed within the oxide stack (122). The base cavity (134) extends laterally beyond the width of the emitter opening (132). A silicon-germanium epitaxial layer (136) defining the base region is grown within the base cavity (134). Finally, a polysilicon layer defining the emitter region is deposited upon said silicon-germanium epitaxial layer (136).

FIG.13

