

HETEROJUNCTION BIPOLAR TRANSISTOR USING REVERSE EMITTER WINDOW

ABSTRACT

A heterojunction bipolar transistor (HBT), and manufacturing method therefor,
5 comprising a semiconductor substrate having a collector region, an intrinsic base region of a
compound semiconductive material over the collector region, an extrinsic base region, an
emitter structure, an interlevel dielectric layer over the collector region, extrinsic base region
and emitter structure, and connections through the interlevel dielectric layer to the base
region, the emitter structure, and the collector region. The emitter structure is formed by
10 forming a reverse emitter window over the intrinsic base region, which subsequently is
etched to form an emitter window having a multi-layer reverse insulating spacer therein.

Figure 9