CLAIMS

~~**WHAT IS CLAIMED IS:**~~

1. A heterojunction bipolar transistor (HBT), comprising:

a collector mesa;

a base mesa on the collector mesa;

an emitter mesa on the base mesa, wherein the emitter mesa has a plurality of openings; and

a plurality of base metals in the plurality of openings connected to the base mesa;

wherein each of the plurality of openings has a same size, and wherein the plurality of openings is at least four.

2. ~~The heterojunction bipolar transistor (HBT) of claim 1 further comprising an outer base metal arranged outside the emitter mesa and connected to the base mesa, wherein the plurality of base metals and the outer base metal are electrically coupled.~~
3. ~~The heterojunction bipolar transistor (HBT) of claim 2, wherein the outer base metal is arranged to surround the emitter mesa.~~
4. ~~The heterojunction bipolar transistor (HBT) of claim 1 further comprising an emitter metal coupled to the emitter mesa.~~
5. ~~The heterojunction bipolar transistor (HBT) of claim 1 further comprising a collector metal coupled to the collector mesa.~~
6. ~~The heterojunction bipolar transistor (HBT) of claim 1, wherein each of the plurality of openings has a same size.~~
7. ~~The heterojunction bipolar transistor (HBT) of claim 6, wherein each of the plurality of openings is in square shape.~~
8. ~~The heterojunction bipolar transistor (HBT) of claim 6, wherein the plurality of openings is at least four.~~
9. ~~The heterojunction bipolar transistor (HBT) of claim 6, wherein the plurality of openings is arranged in an array.~~
10. ~~The heterojunction bipolar transistor (HBT) of claim 9, wherein the plurality of openings is arranged in a 2x2, 3x3, or 3x1 array.~~

~~11. The heterojunction bipolar transistor (HBT) of claim 6, wherein each of the plurality of opening is in hexagon shape.~~

~~12. The heterojunction bipolar transistor (HBT) of claim 11, wherein each of the plurality of base metals is in hexagon shape.~~

~~13. The heterojunction bipolar transistor (HBT) of claim 1, wherein a spacing between the emitter mesa and the plurality of base metals is a minimum size allowed by a process technology used.~~

~~14. The heterojunction bipolar transistor (HBT) of claim 1, wherein a ratio of an area of the base mesa to the area of the emitter mesa is less than 1.8.~~

~~15~~2. A method, comprising:

providing a wafer comprising a collector mesa stack, a base mesa stack, and an emitter mesa stack;

patterning the emitter mesa stack to form an emitter mesa having a plurality of opening;

providing a plurality of base metals in the plurality of openings connected to the base mesa stack; and

patterning the base mesa stack to form a base mesa;

wherein each of the plurality of openings is with a same size, and wherein the emitter mesa has 4 or more openings.

~~16. The method of claim 15 further comprising providing an outer base metal arranged outside the emitter mesa and connected to the base mesa, wherein the plurality of base metals and the outer base metal are electrically coupled.~~

~~17. The method of claim 16, wherein the outer base metal is arranged to surround the emitter mesa.~~

~~18. The method of claim 15 further comprising providing an emitter metal coupled to the emitter mesa stack.~~

~~19. The method of claim 15 further comprising providing a collector metal coupled to the collector mesa stack.~~

~~20. The method of claim 15, wherein each of the plurality of openings is with a same size.~~

~~21. The method of claim 20, wherein the plurality of openings is arranged in a 2x2 3x3, or 3x1 array.~~

~~22. The method of claim 20, wherein the emitter mesa has 4 or more openings.~~

~~23. The method of claim 15, wherein each of the plurality of openings is in square shape.~~

~~24. The method of claim 15, wherein each of the plurality of opening is in hexagon shape.~~

~~25. The method of claim 24, wherein each of the plurality of base metals is in hexagon shape.~~

~~26. The method of claim 15, wherein a ratio of an area of the base mesa to an area of the emitter mesa is less than 1.8.~~