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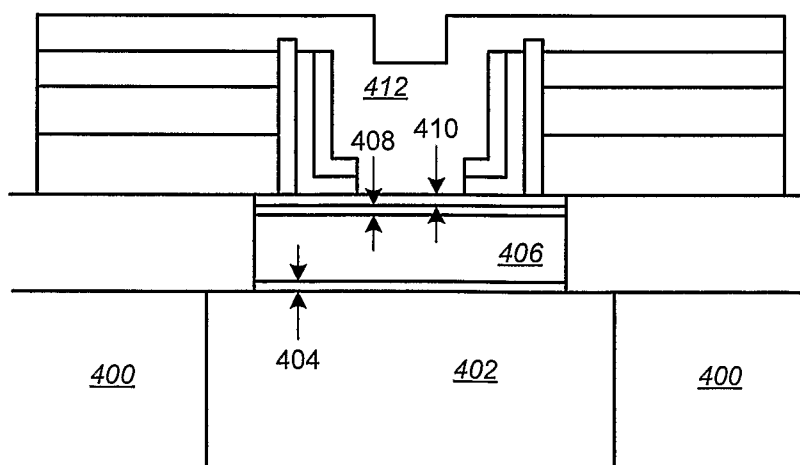
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(54) Title: **BANDGAP ENGINEERED MONO-CRYSTALLINE SILICON CAP LAYERS FOR SI-GE HBT PERFORMANCE ENHANCEMENT**



(57) Abstract: A method for fabricating a heterojunction bipolar transistor (HBT) is provided. The method includes providing a substrate including a collector region; forming a compound base region over the collector region; forming a cap layer overlying the compound base region including doping the cap layer with a pre-determined percentage of at least one element associated with the compound base region; and forming an emitter region over the cap layer.

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## INTERNATIONAL SEARCH REPORT

International application No.

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## A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - H01L 31/00 (2007.01)

USPC - 257/197

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

MicroPatent

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,962,880 A (OTA et al) 05 October 1999 (05.10.99) entire document\	1-3,6-10,13-17,20-21
Y		4-5,11-12,18-19
Y	US 6,764,918 B2 (LOECHELT) 20 July 2004 (20.07.2004) entire document	4-5,11-12,18-19

☐ Further documents are listed in the continuation of Box C.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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