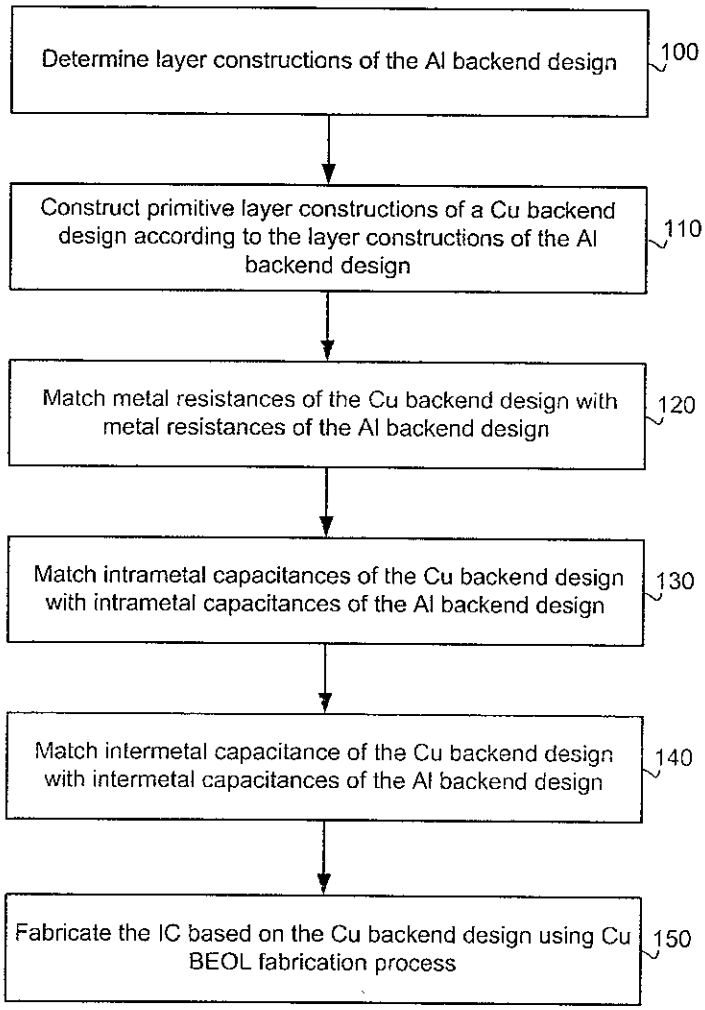

Determine layer constructions of the Al backend design
100
Construct primitive layer constructions of a Cu backend design according to the layer constructions of the Al backend design
110
Match metal resistances of the Cu backend design with metal resistances of the Al backend design
120
Match intrametal capacitances of the Cu backend design with intrametal capacitances of the Al backend design
130
Match intermetal capacitance of the Cu backend design with intermetal capacitances of the Al backend design
140
Fabricate the IC based on the Cu backend design using Cu BEOL fabrication process
150

FIG. 1

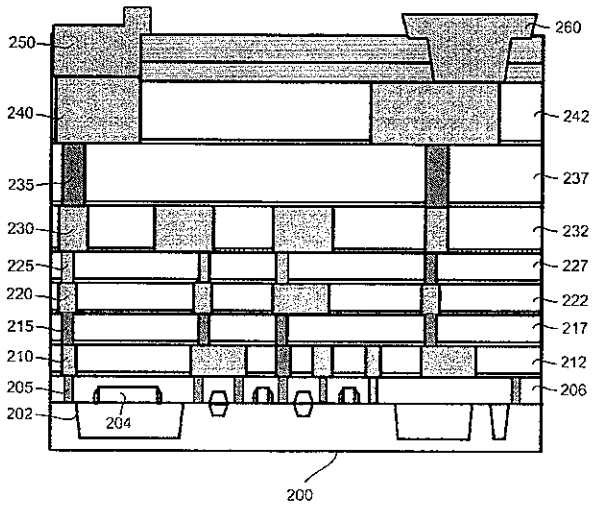

250
260
240
242
235
237
230
232
225
227
220
222
215
217
210
212
205
206
202
204
200

FIG. 2

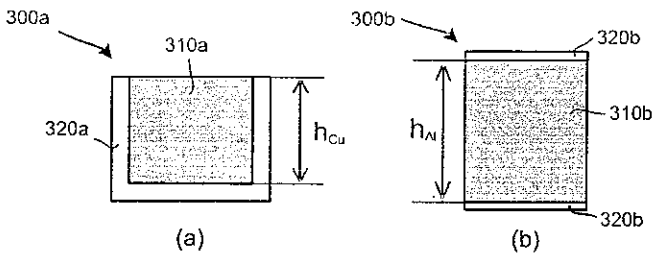

300a
310a
320a
h_{Cu}
(a)
300b
320b
310b
h_N
320b
(b)

FIG. 3

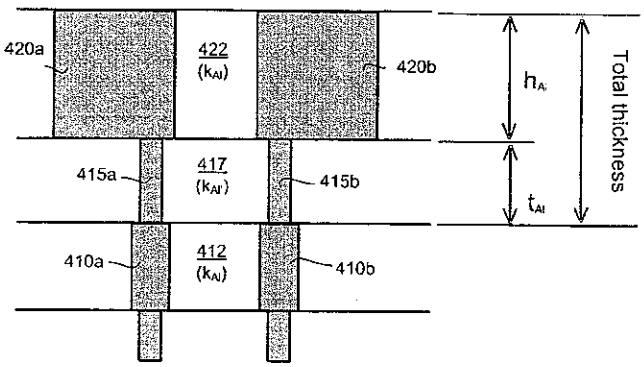

420a
422
(kAl)
420b
hAl
Total thickness
415a
417
(kAl)
415b
tAl
410a
412
(kAl)
410b

FIG. 4

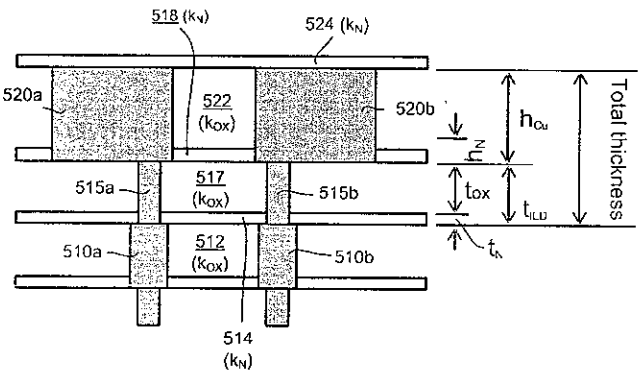

518 (kN)
524 (kN)
520a
522
(kox)
520b
hCu
tN
Total thickness
515a
517
(kox)
515b
tox
tILD
510a
512
(kox)
510b
tA
514
(kN)

FIG. 5

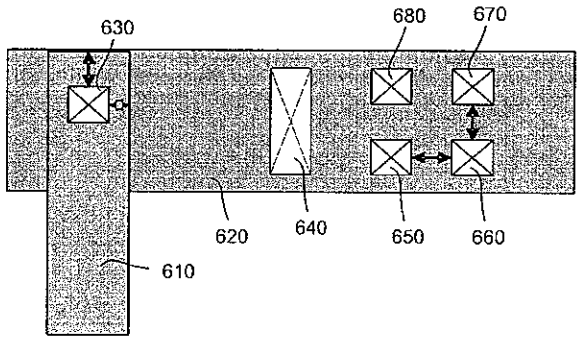


FIG. 6

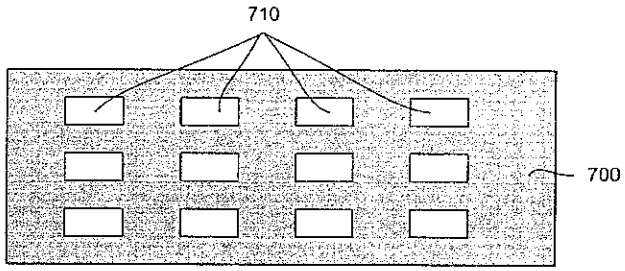


FIG. 7

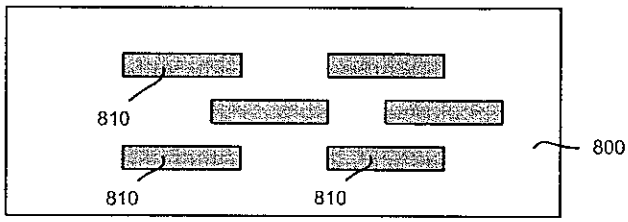

810
800
810
810

FIG. 8

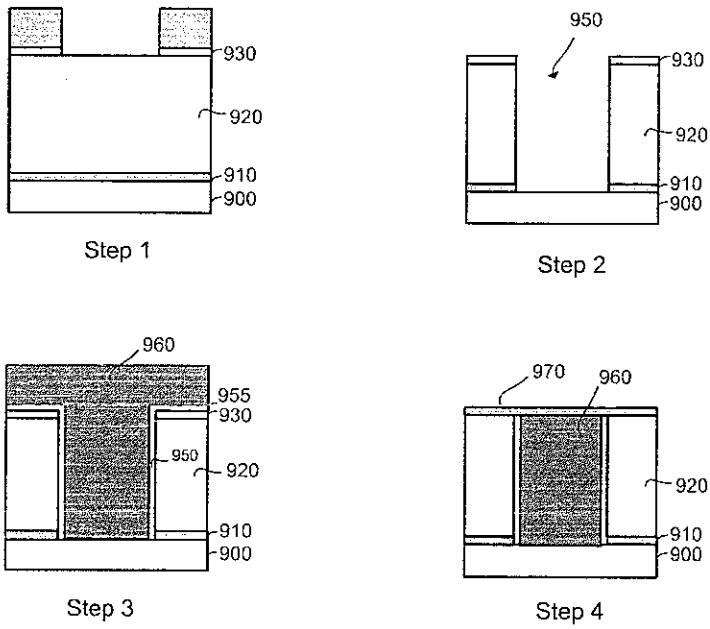
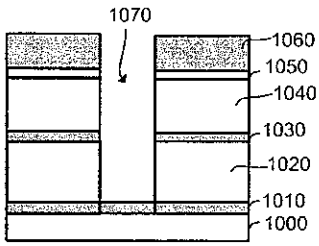
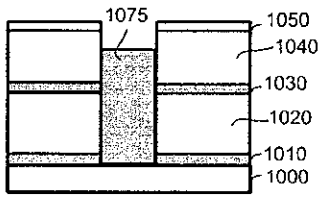

930
920
910
900
Step 1
950
930
920
910
900
Step 2
960
955
930
950
920
910
900
Step 3
970
960
920
910
900
Step 4

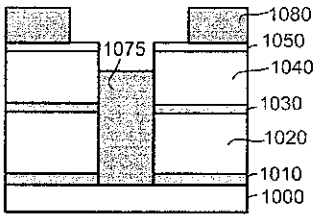
FIG. 9



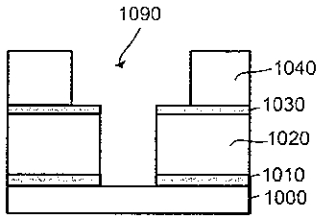
Step 1



Step 2

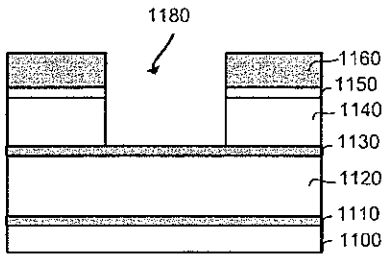


Step 3

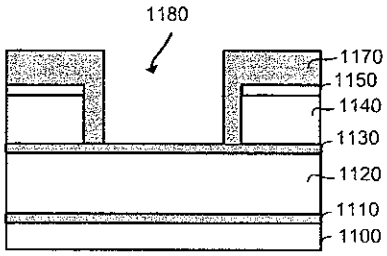


Step 4

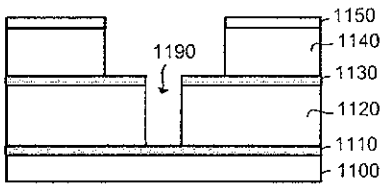
FIG. 10



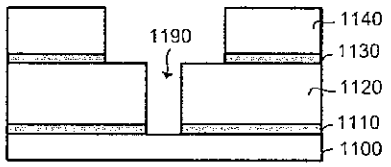
Step 1



Step 2



Step 3



Step 4

FIG. 11

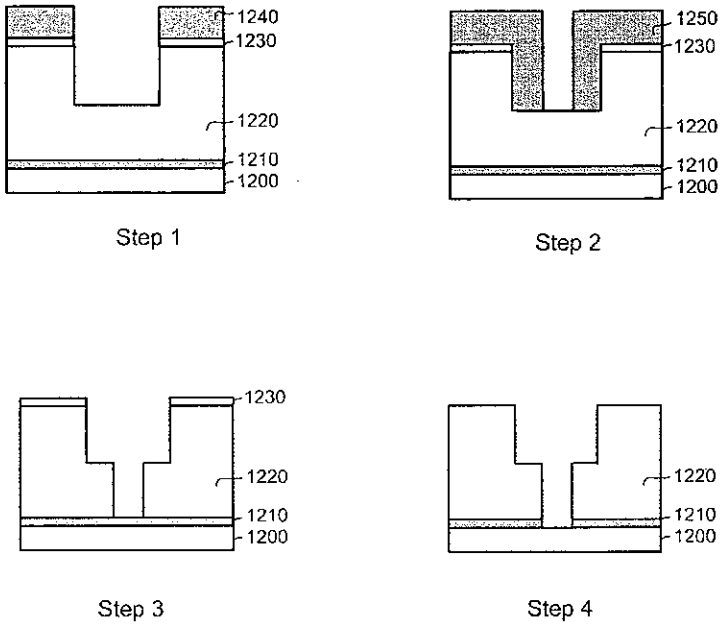

1240
1230
1220
1210
1200
Step 1
1250
1230
1220
1210
1200
Step 2
1230
1220
1210
1200
Step 3
1220
1210
1200
Step 4

FIG. 12