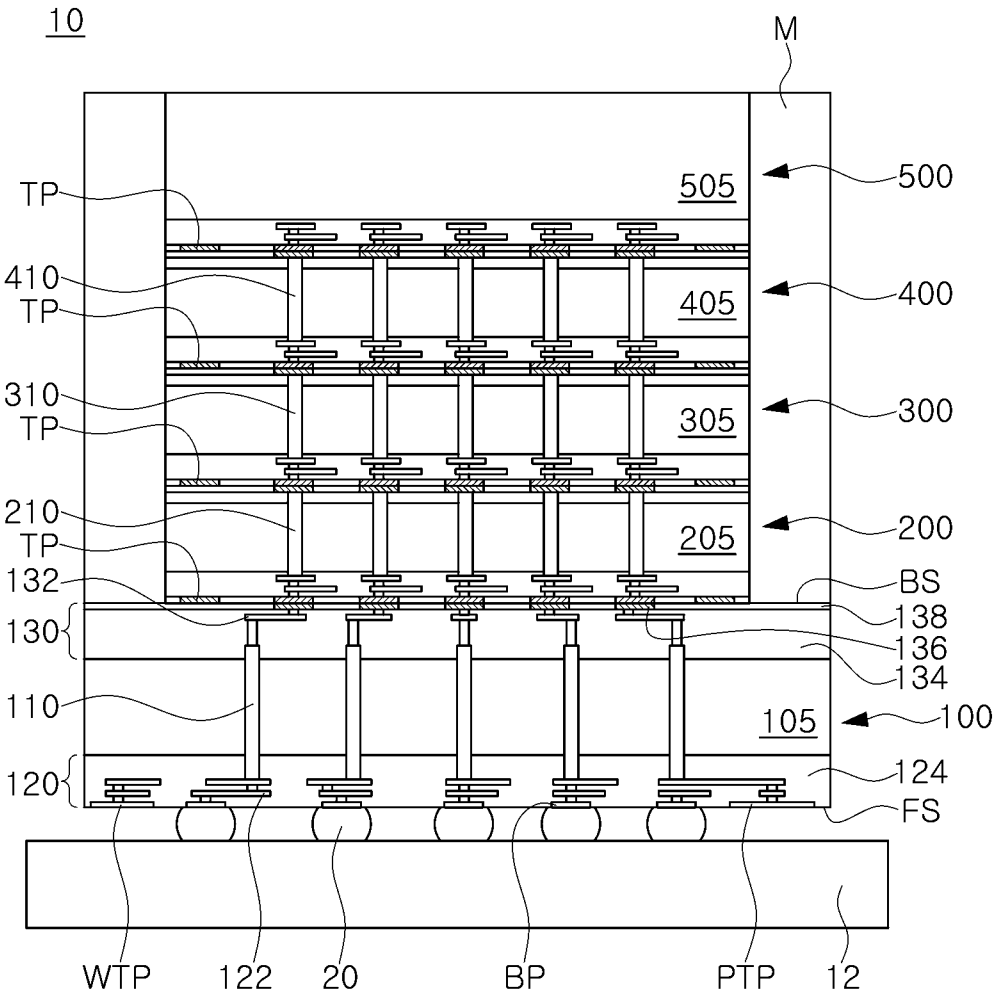
10
M
TP
505
500
410
TP
405
400
310
TP
305
300
210
TP
205
200
132
BS
130
138
136
134
110
105
100
120
124
FS
WTP
122
20
BP
PTP
12

FIG. 1

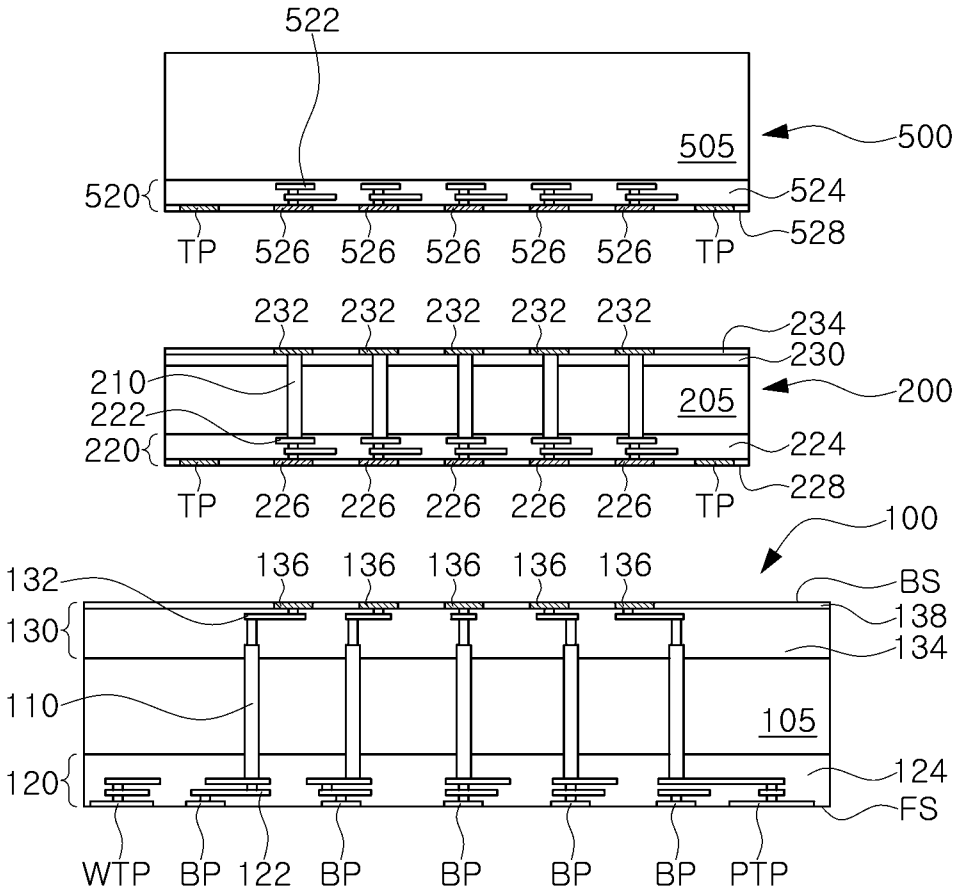
522
505
500
520
524
528
TP
526
526
526
526
526
TP
232
232
232
232
232
234
230
210
205
200
222
220
224
228
TP
226
226
226
226
226
TP
100
132
136
136
136
136
136
BS
138
130
134
110
105
120
124
FS
WTP
BP
122
BP
BP
BP
BP
PTP

FIG. 2

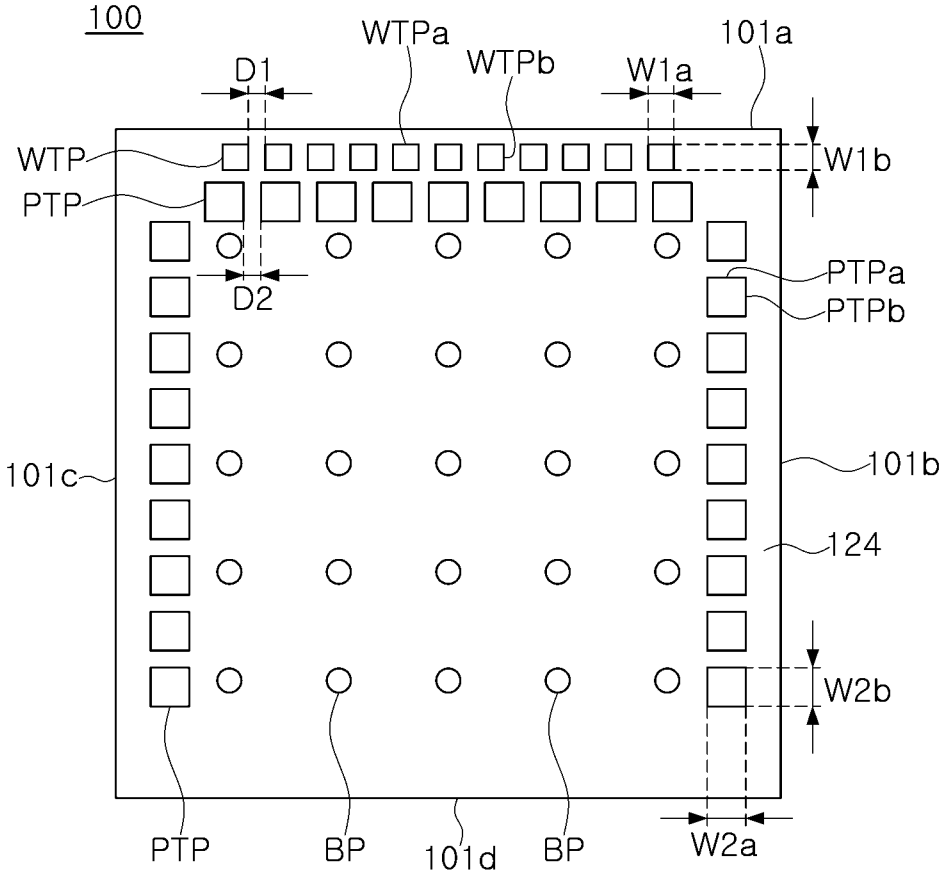
100
WTPa
WTPb
101a
D1
W1a
WTP
W1b
PTP
D2
PTPa
PTPb
101c
101b
124
W2b
PTP
BP
101d
BP
W2a

FIG. 3

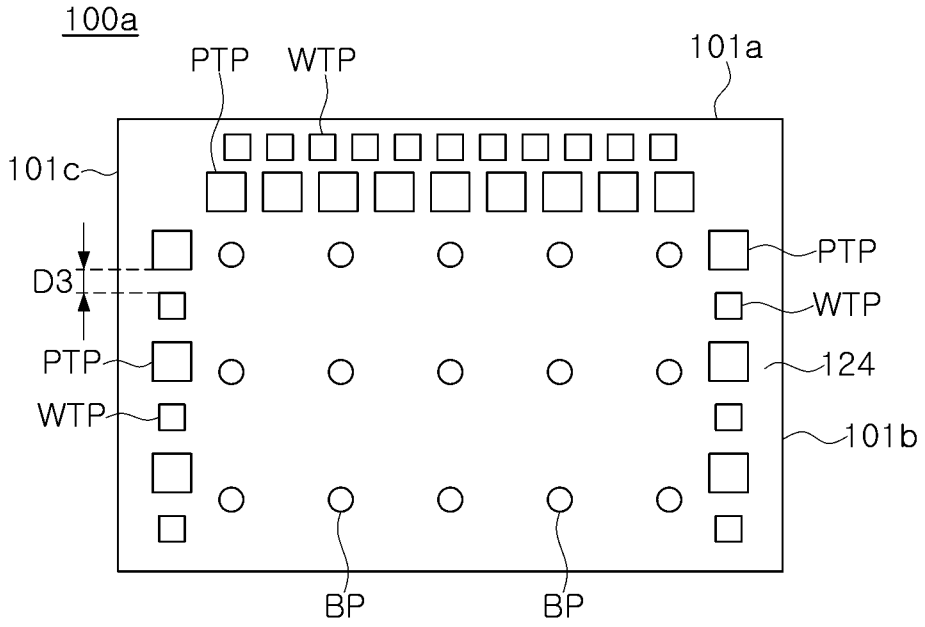
100a
PTP
WTP
101a
101c
D3
PTP
WTP
PTP
WTP
124
101b
BP
BP

FIG. 4A

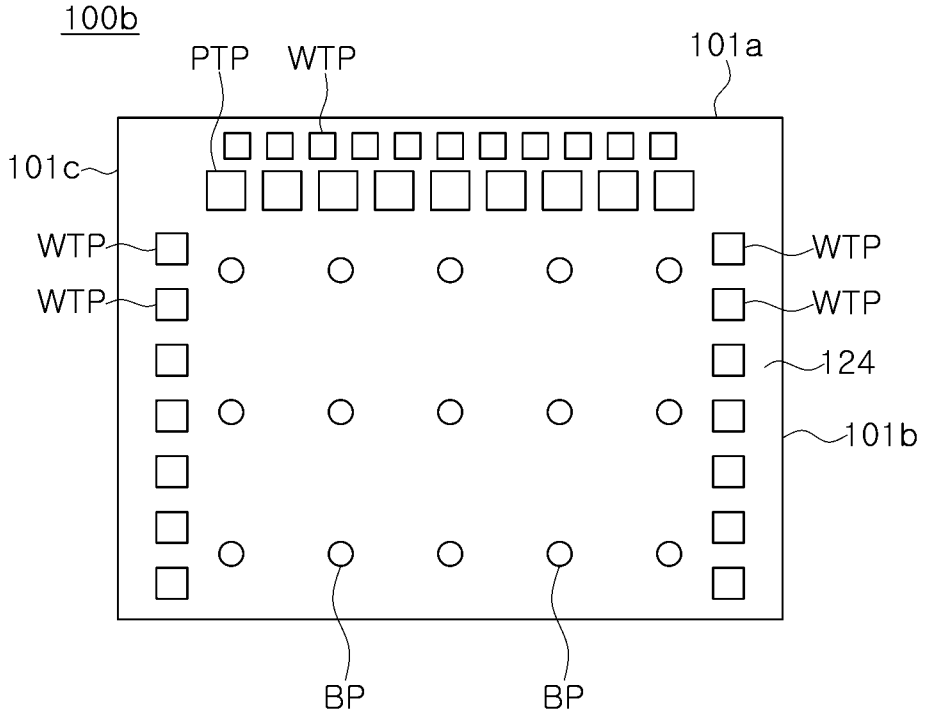
100b
PTP
WTP
101a
101c
WTP
WTP
WTP
WTP
124
101b
BP
BP

FIG.4B

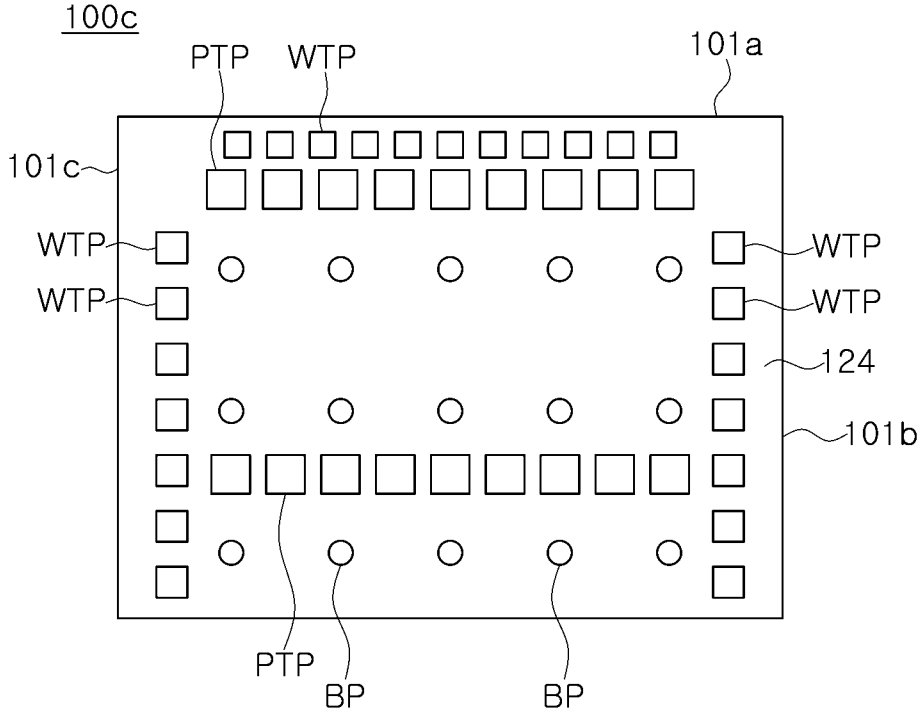
100c
PTP
WTP
101a
101c
WTP
WTP
WTP
WTP
124
101b
PTP
BP
BP

FIG. 4C

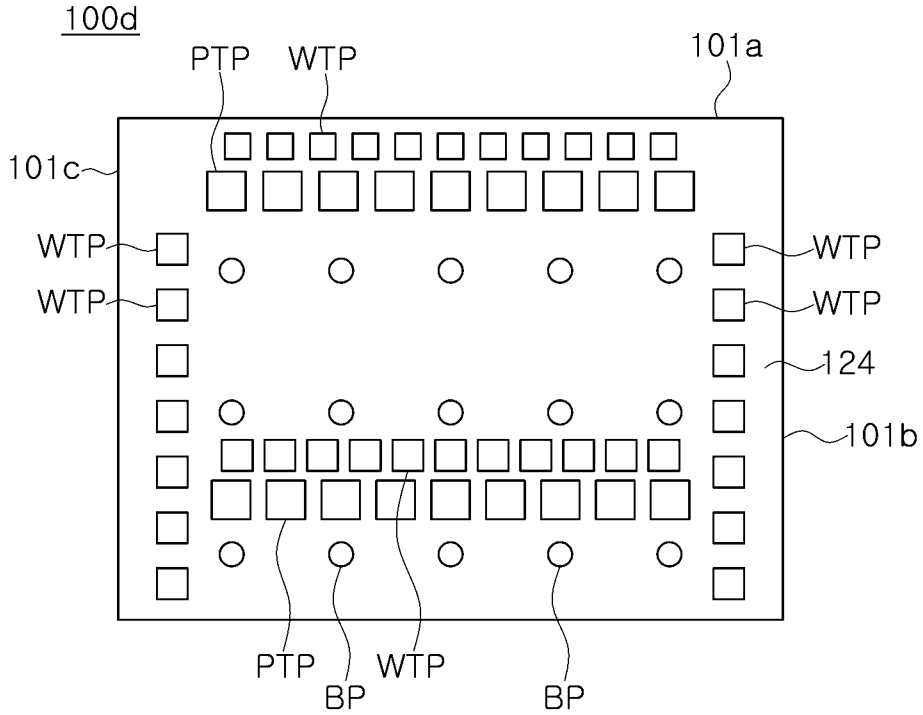
100d
PTP
WTP
101a
101c
WTP
WTP
WTP
WTP
124
101b
PTP
BP
WTP
BP

FIG. 4D

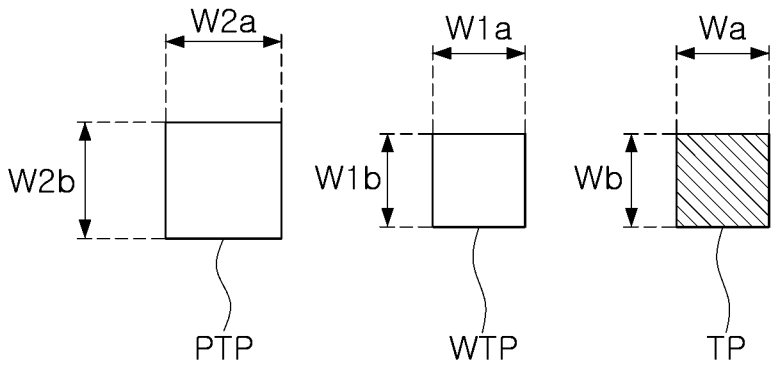

FIG. 5A

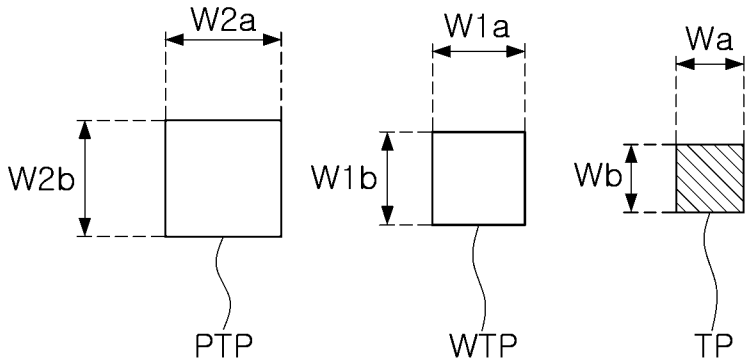

FIG. 5B

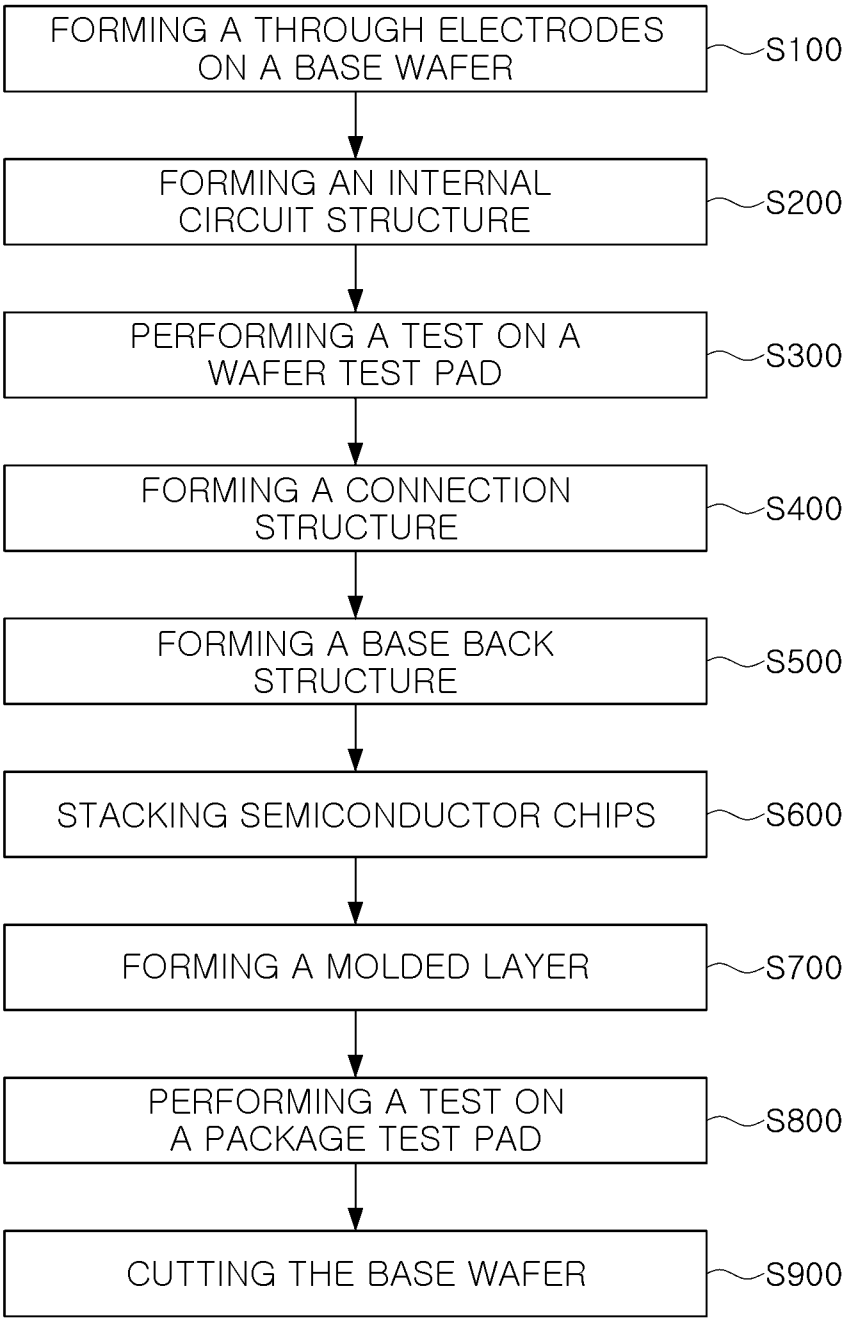
FORMING A THROUGH ELECTRODES ON A BASE WAFER
S100
FORMING AN INTERNAL CIRCUIT STRUCTURE
S200
PERFORMING A TEST ON A WAFER TEST PAD
S300
FORMING A CONNECTION STRUCTURE
S400
FORMING A BASE BACK STRUCTURE
S500
STACKING SEMICONDUCTOR CHIPS
S600
FORMING A MOLDED LAYER
S700
PERFORMING A TEST ON A PACKAGE TEST PAD
S800
CUTTING THE BASE WAFER
S900

FIG. 6

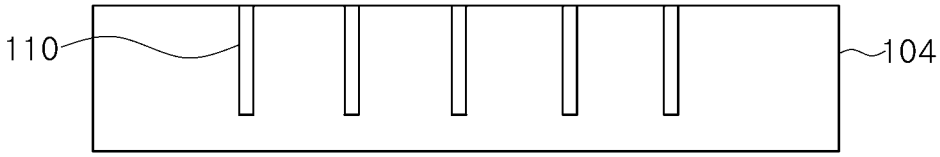

FIG. 7

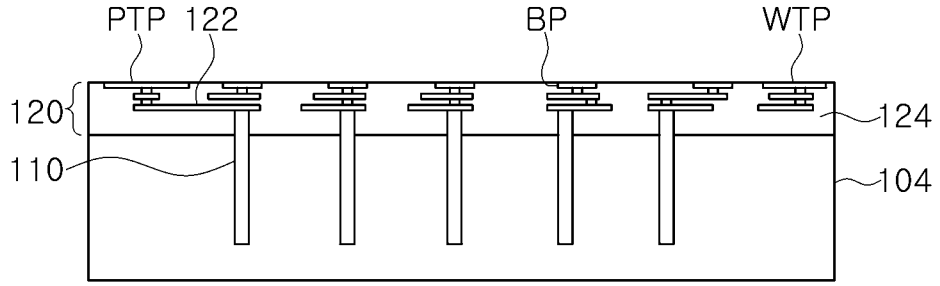

FIG. 8

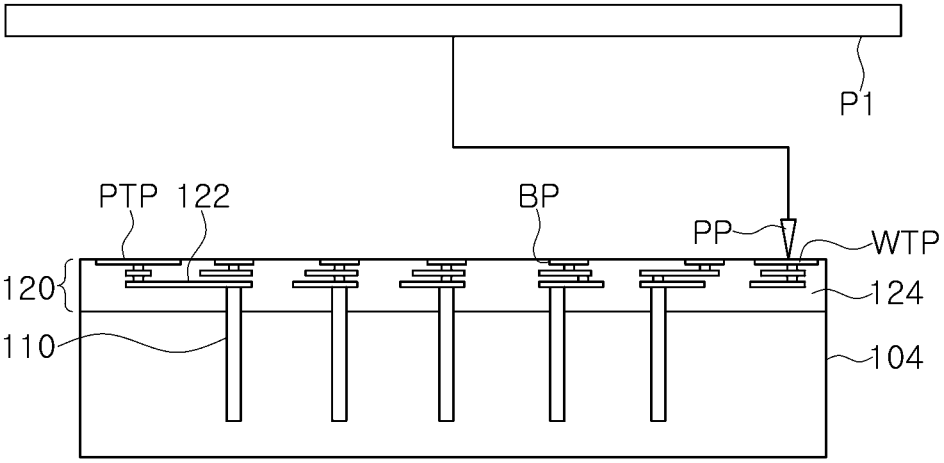

FIG. 9

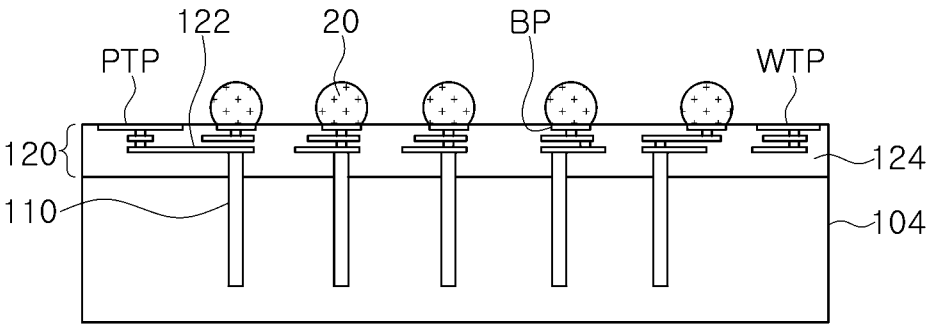
122
20
BP
PTP
WTP
120
124
110
104

FIG. 10

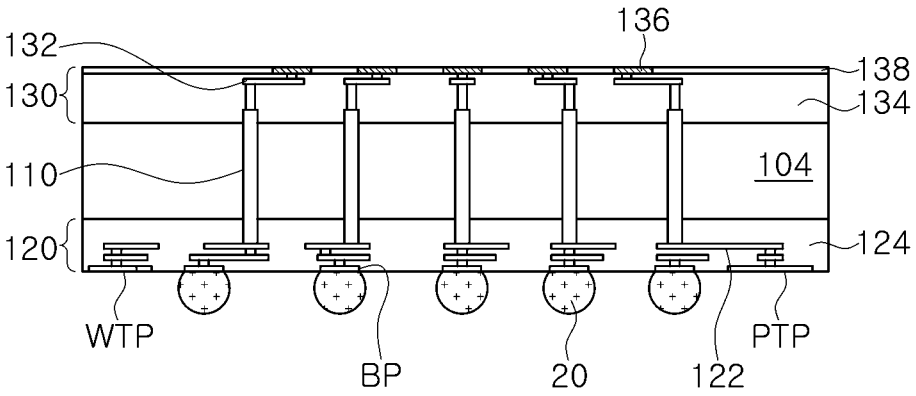
136
132
138
130
134
110
104
120
124
WTP
BP
20
122
PTP

FIG. 11

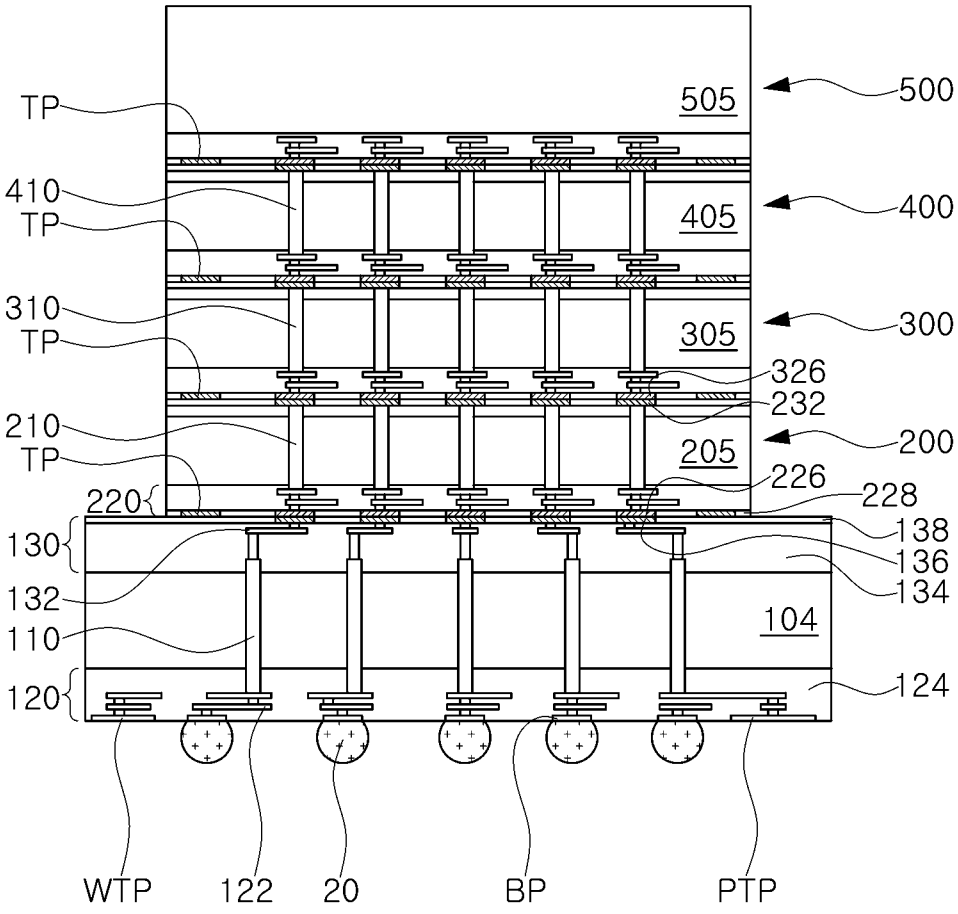
TP
505
500
410
TP
405
400
310
TP
305
300
326
232
210
TP
205
200
220
226
228
130
138
136
132
134
110
104
120
124
WTP
122
20
BP
PTP

FIG. 12

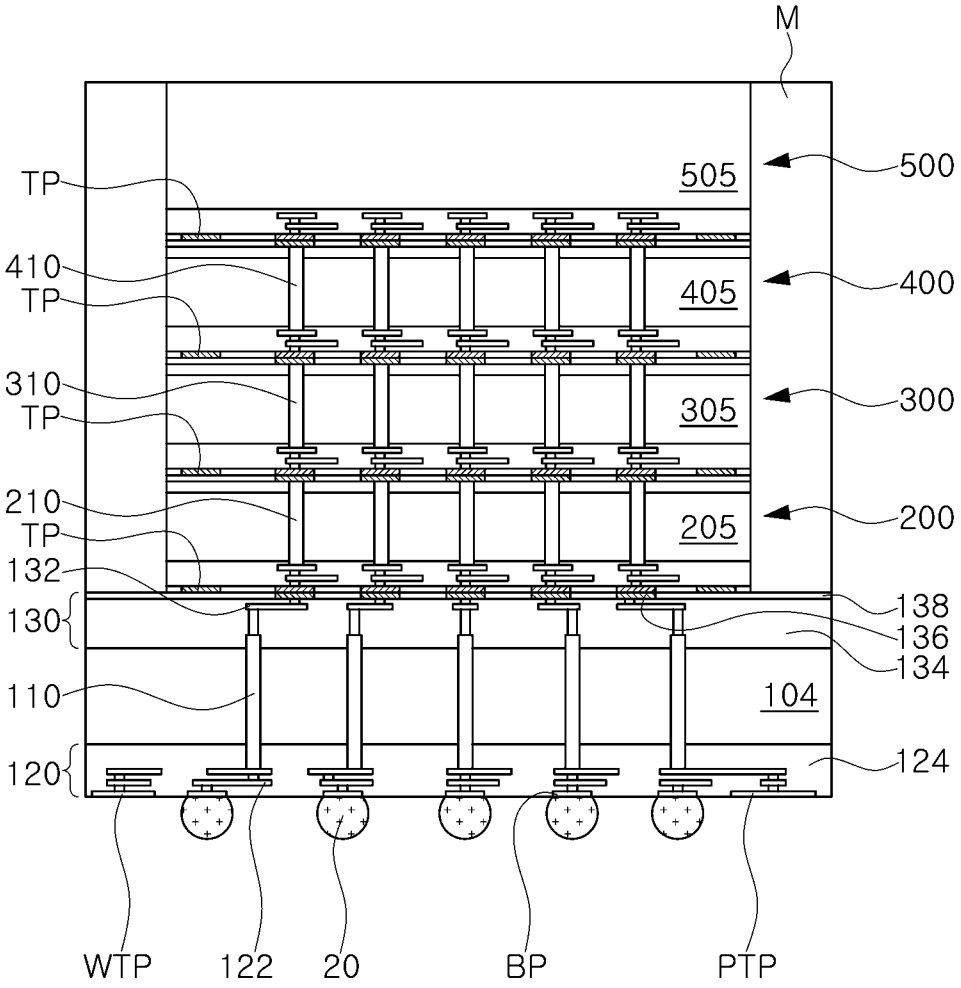
M
TP
505
500
410
TP
405
400
310
TP
305
300
210
TP
205
200
132
130
138
136
134
110
104
120
124
WTP
122
20
BP
PTP

FIG. 13

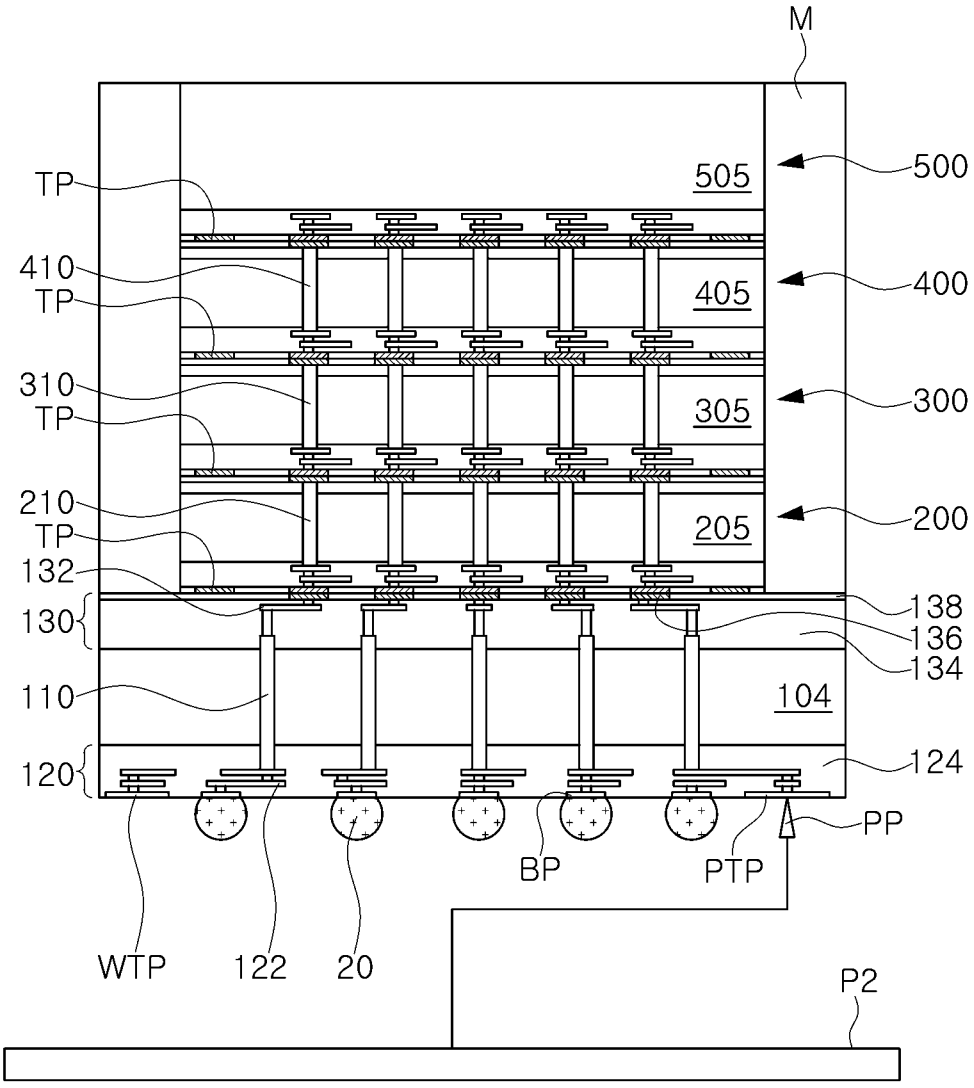
M
TP
505
500
410
TP
405
400
310
TP
305
300
210
TP
205
200
132
130
138
136
134
110
104
120
124
PP
BP
PTP
WTP
122
20
P2

FIG. 14