FIG. 1

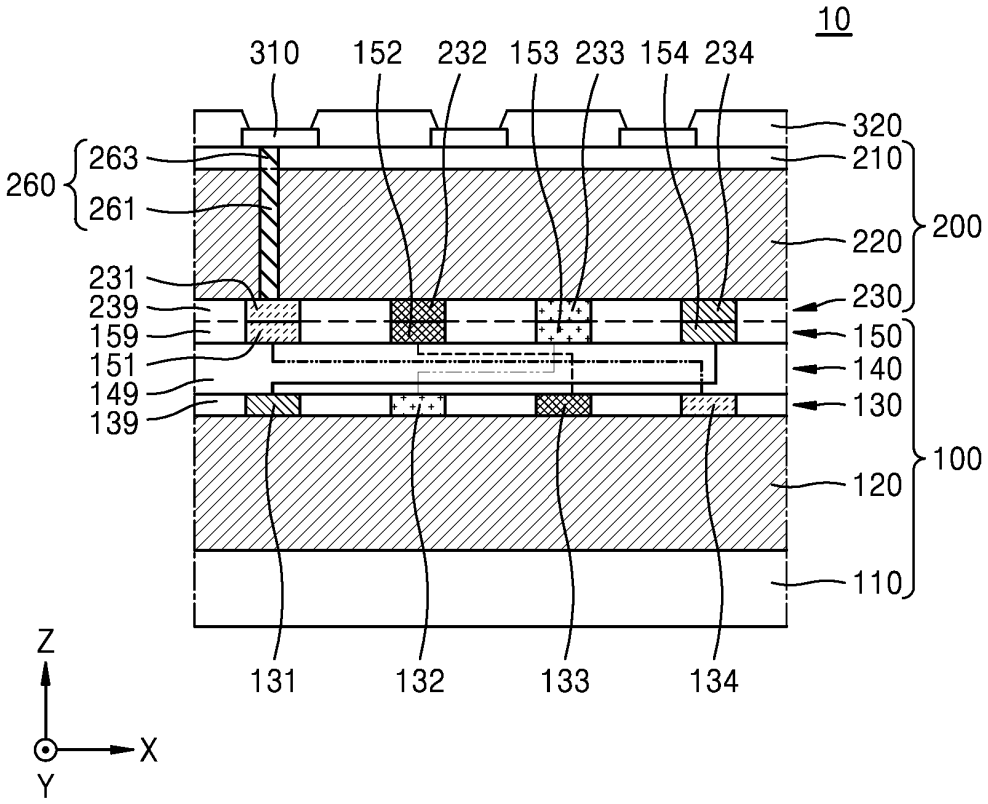

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310
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232
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154
234
320
263
260
261
210
200
220
231
239
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150
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149
130
139
100
120
110
131
132
133
134
Z
X
Y

FIG. 2

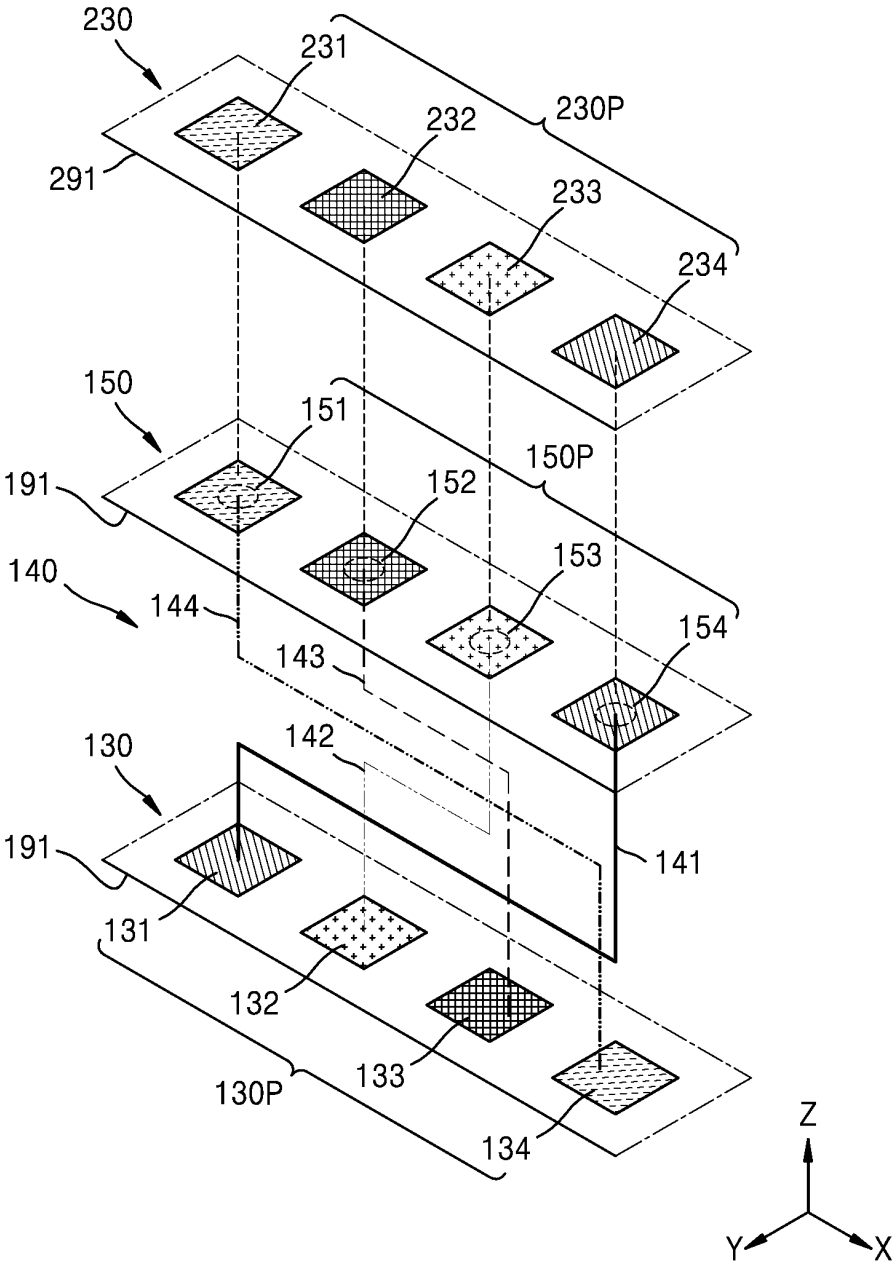

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230P
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150P
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152
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140
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154
143
142
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141
191
131
132
133
130P
134
Z
Y
X

FIG. 3A

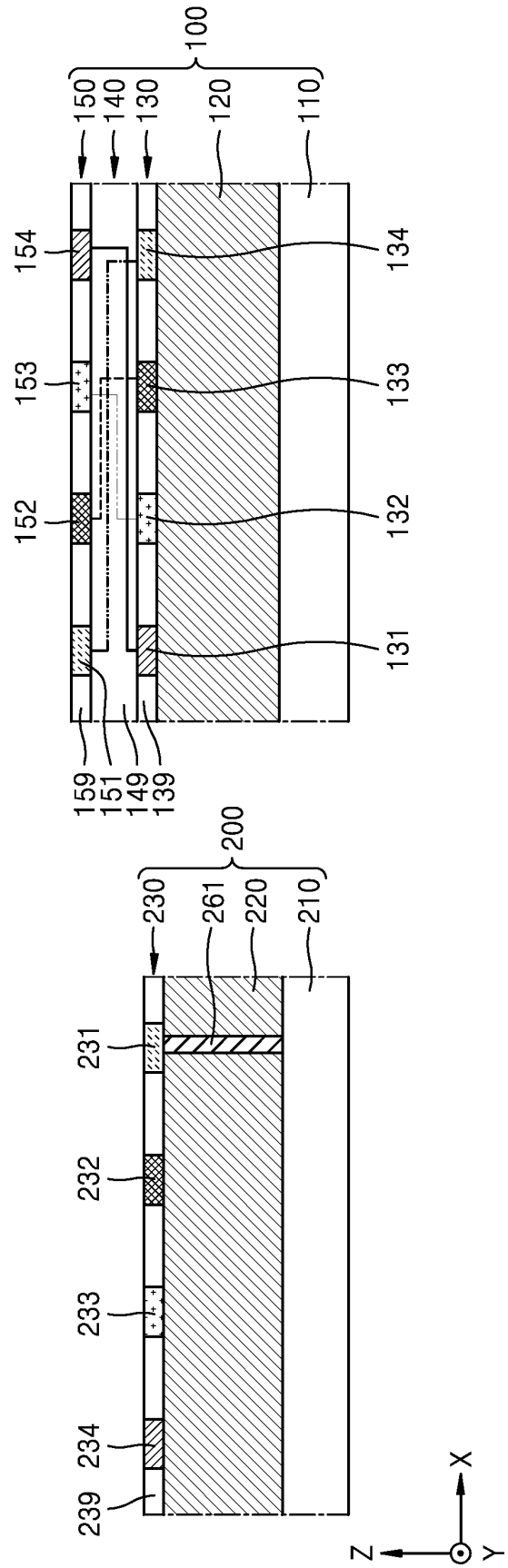

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152
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132
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139
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261
220
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231
232
233
234
239
X
Z
Y

FIG. 3B

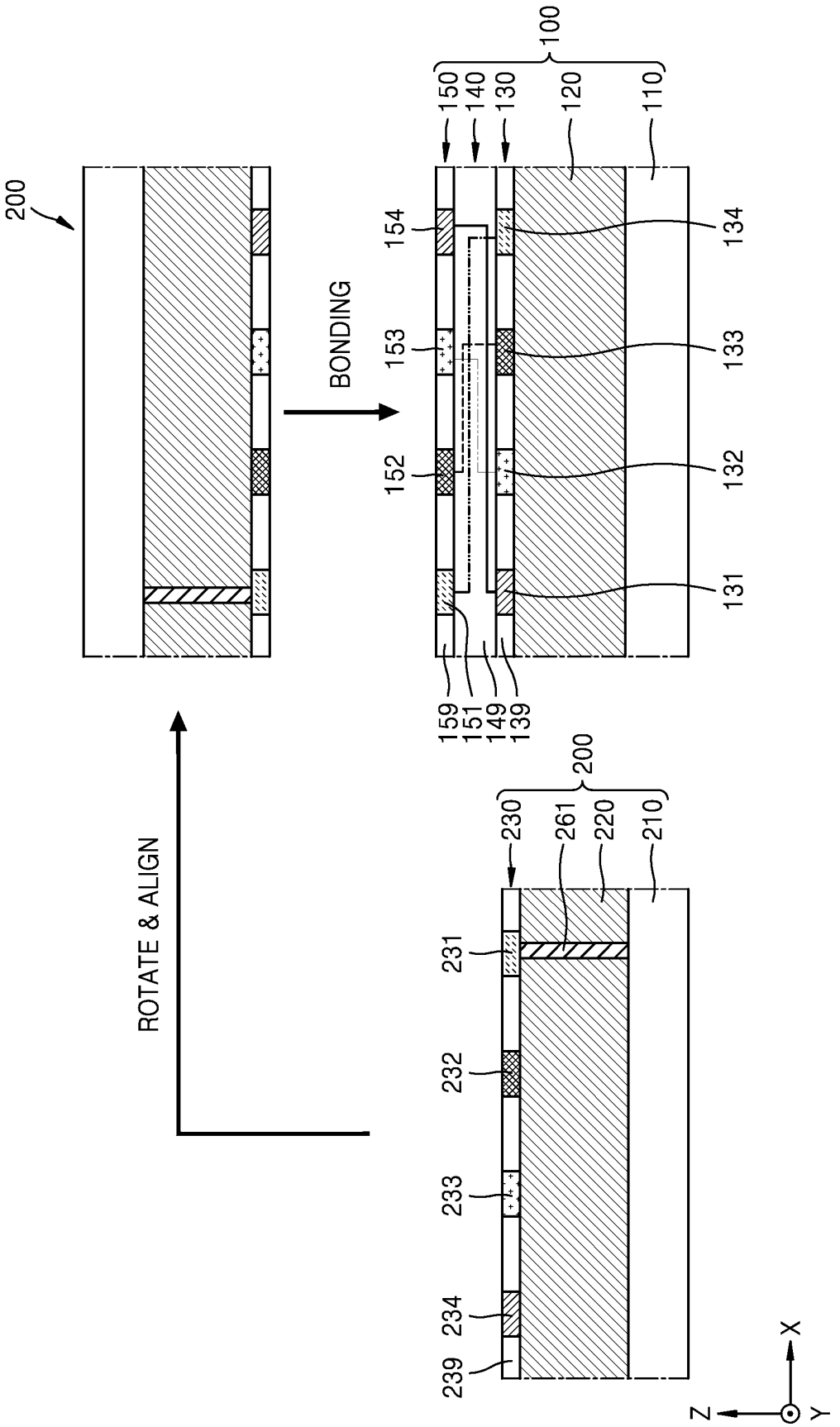

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152
134
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131
159
151
149
139
ROTATE & ALIGN
200
230
261
220
210
231
232
233
234
239
X
Z
Y

FIG. 3C

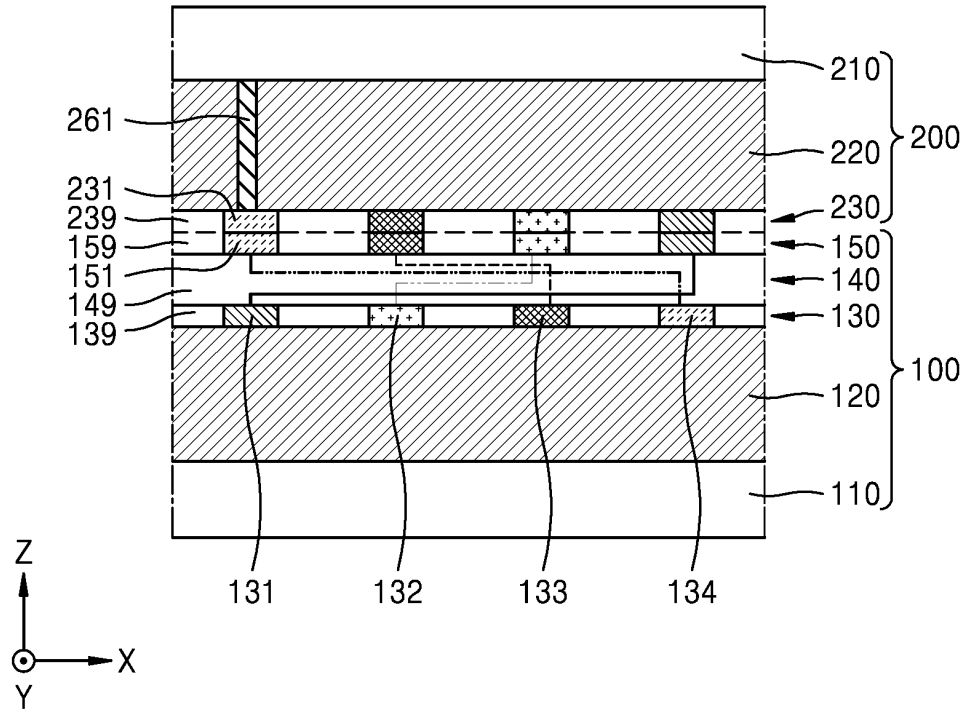

210
200
261
220
231
230
239
150
159
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151
130
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120
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131
132
133
134
Z
X
Y

FIG. 3D

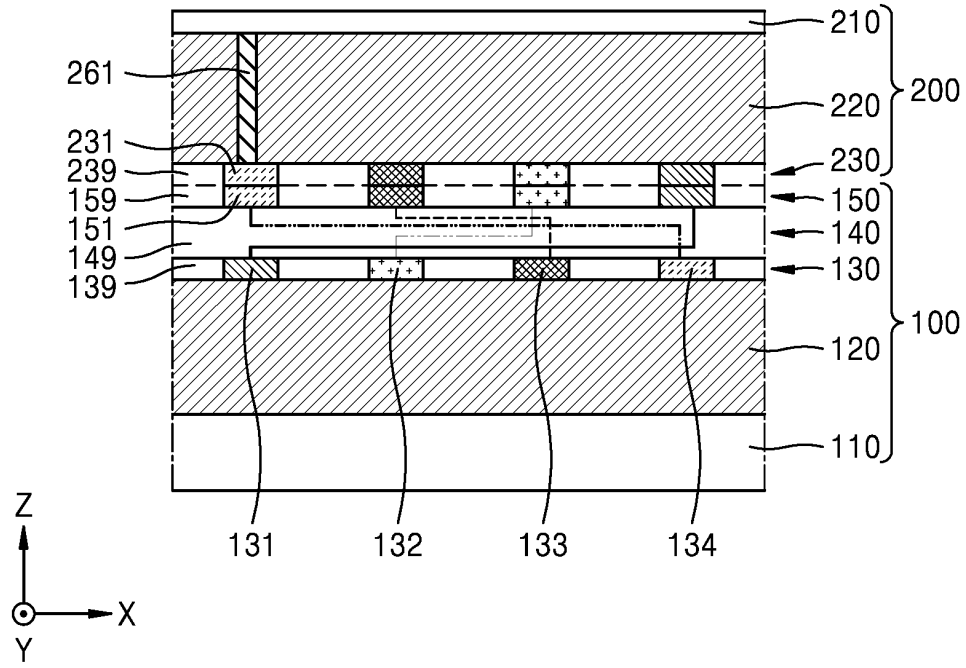

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159
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110
131
132
133
134
Z
X
Y

FIG. 3E

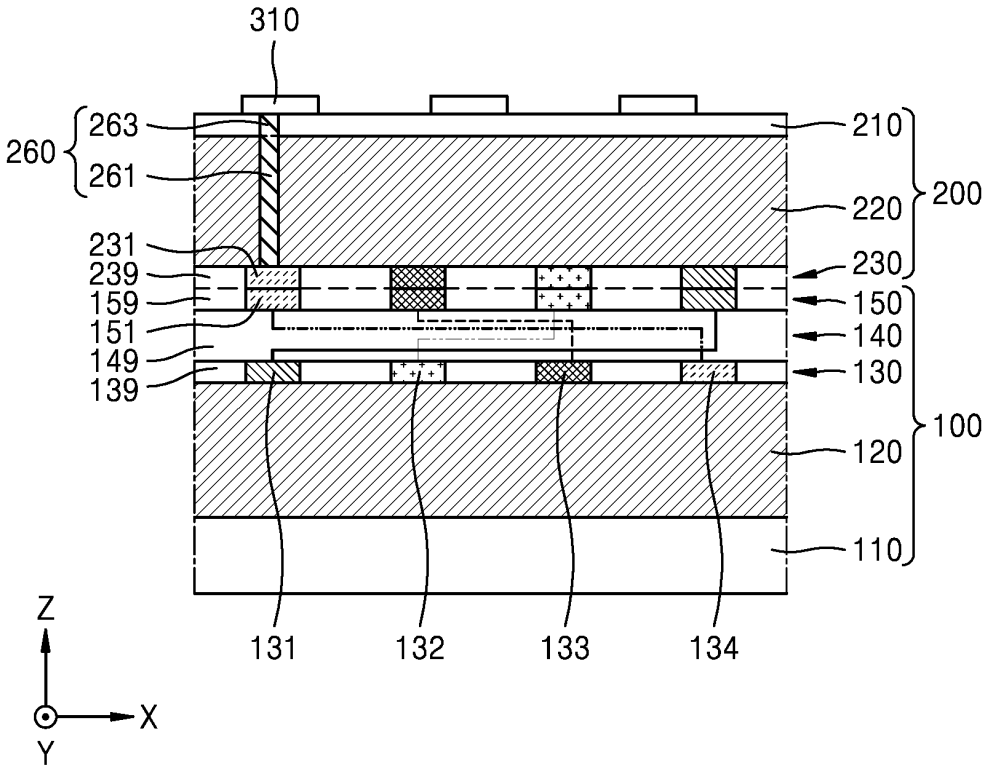

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261
231
239
159
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210
220
230
200
150
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130
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110
100
131
132
133
134
Z
X
Y

FIG. 4

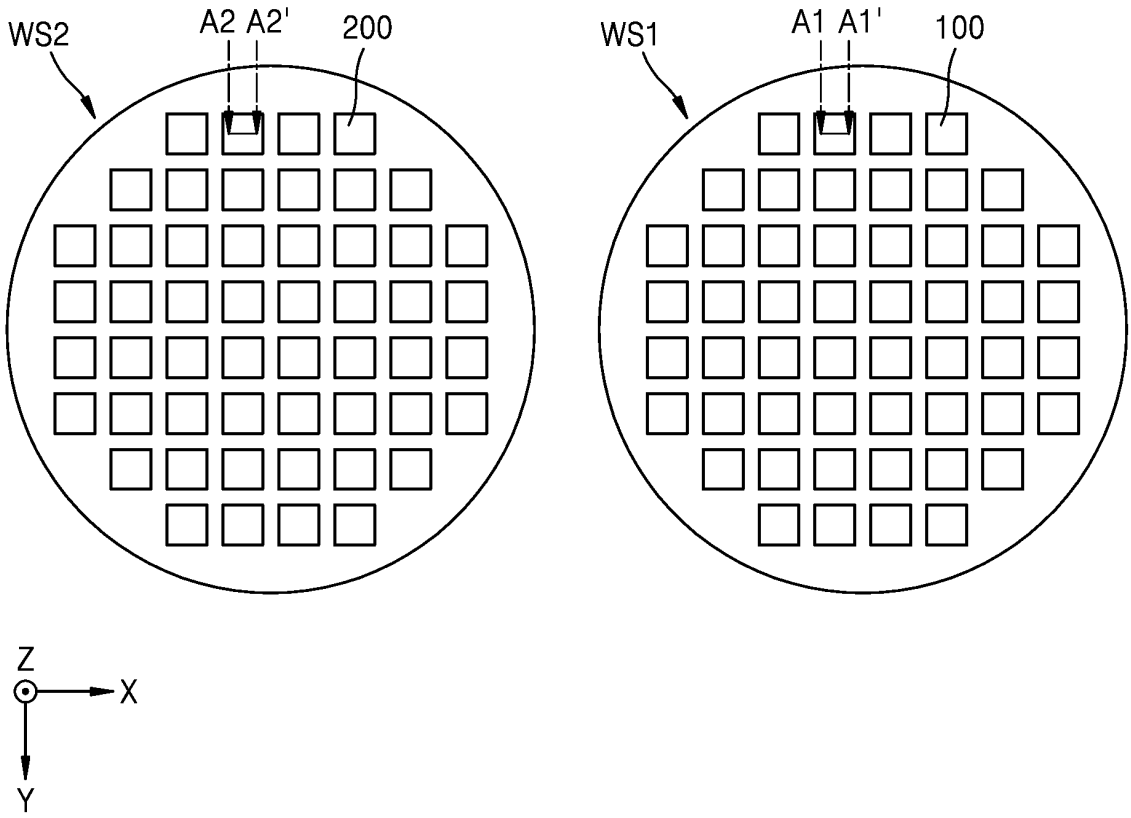


FIG. 5

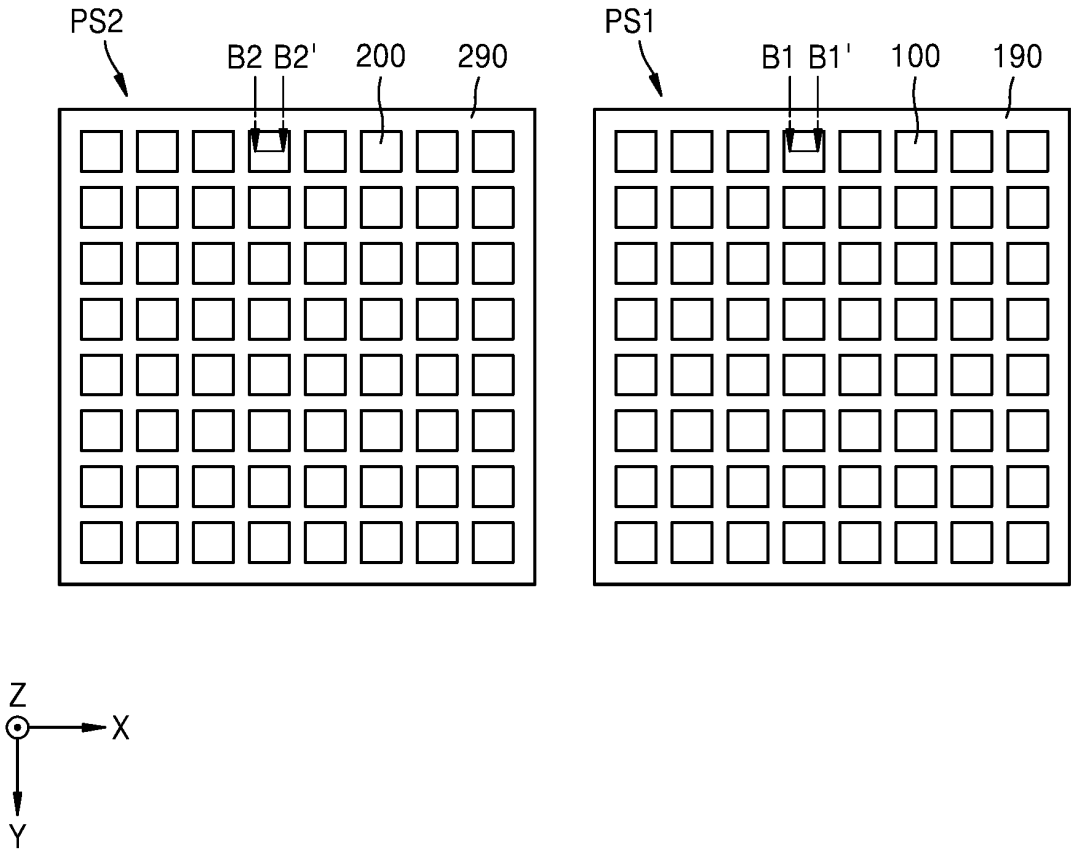


FIG. 6

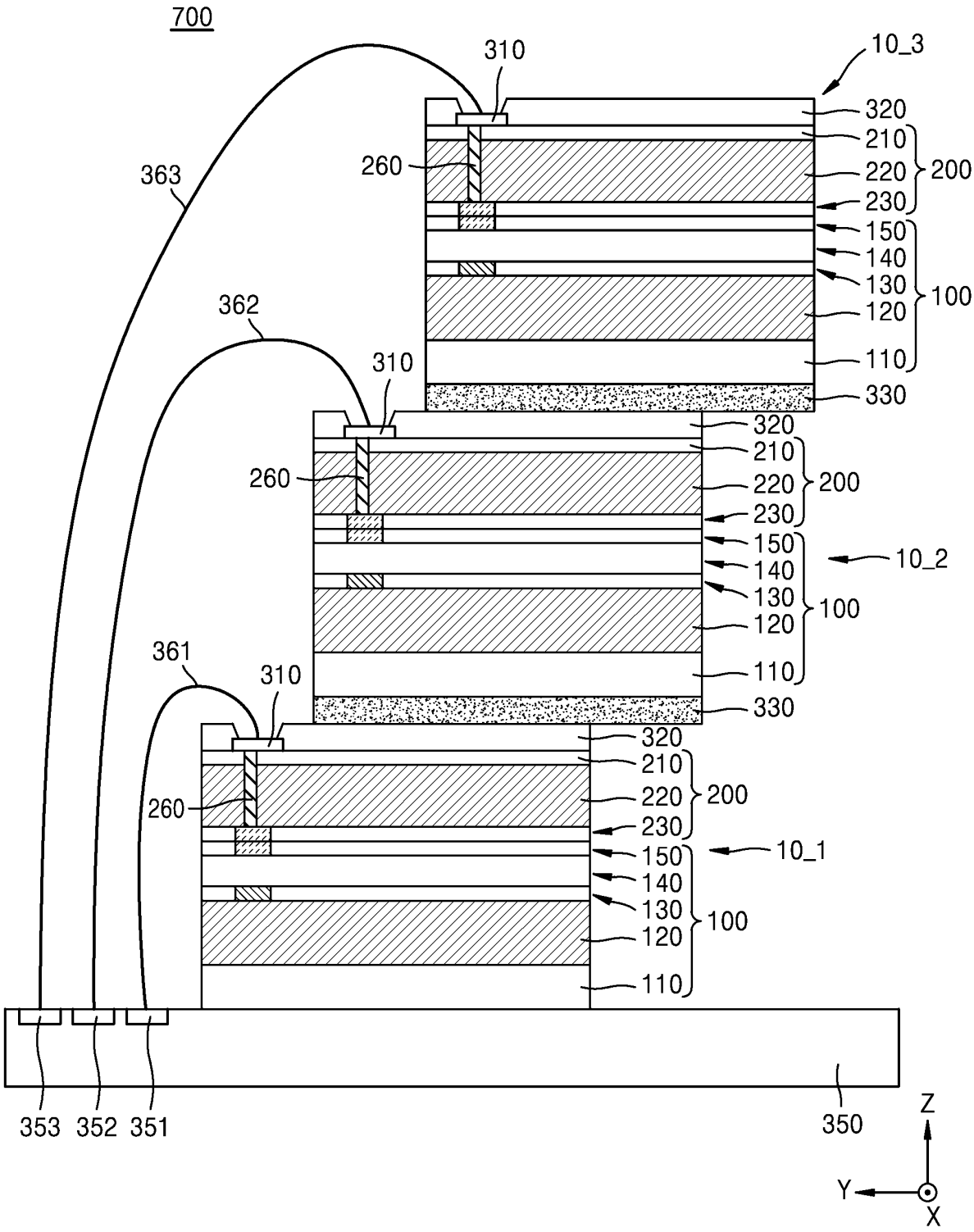

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320
210
260
220
200
230
363
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140
130
100
362
120
310
110
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320
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260
220
200
230
150
10_2
140
130
100
361
120
310
110
330
320
210
260
220
200
230
150
10_1
140
130
100
120
110
353
352
351
350
Z
Y
X

FIG. 7

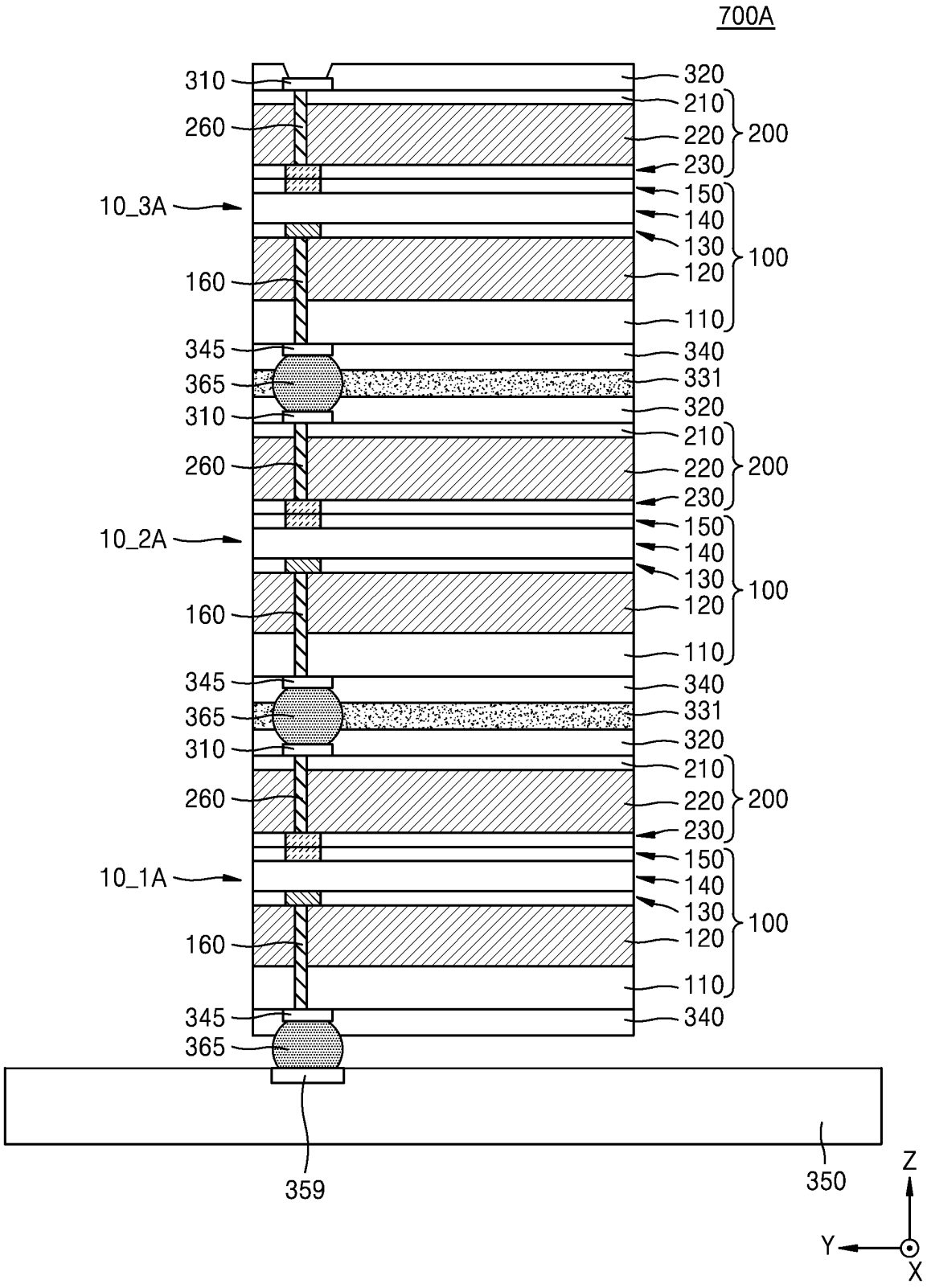

700A
310
260
10_3A
160
345
365
310
260
10_2A
160
345
365
310
260
10_1A
160
345
365
320
210
220
230
200
150
140
130
120
110
100
340
331
320
210
220
230
200
150
140
130
120
110
100
340
331
320
210
220
230
200
150
140
130
120
110
100
340
359
350
Z
Y
X

FIG. 8

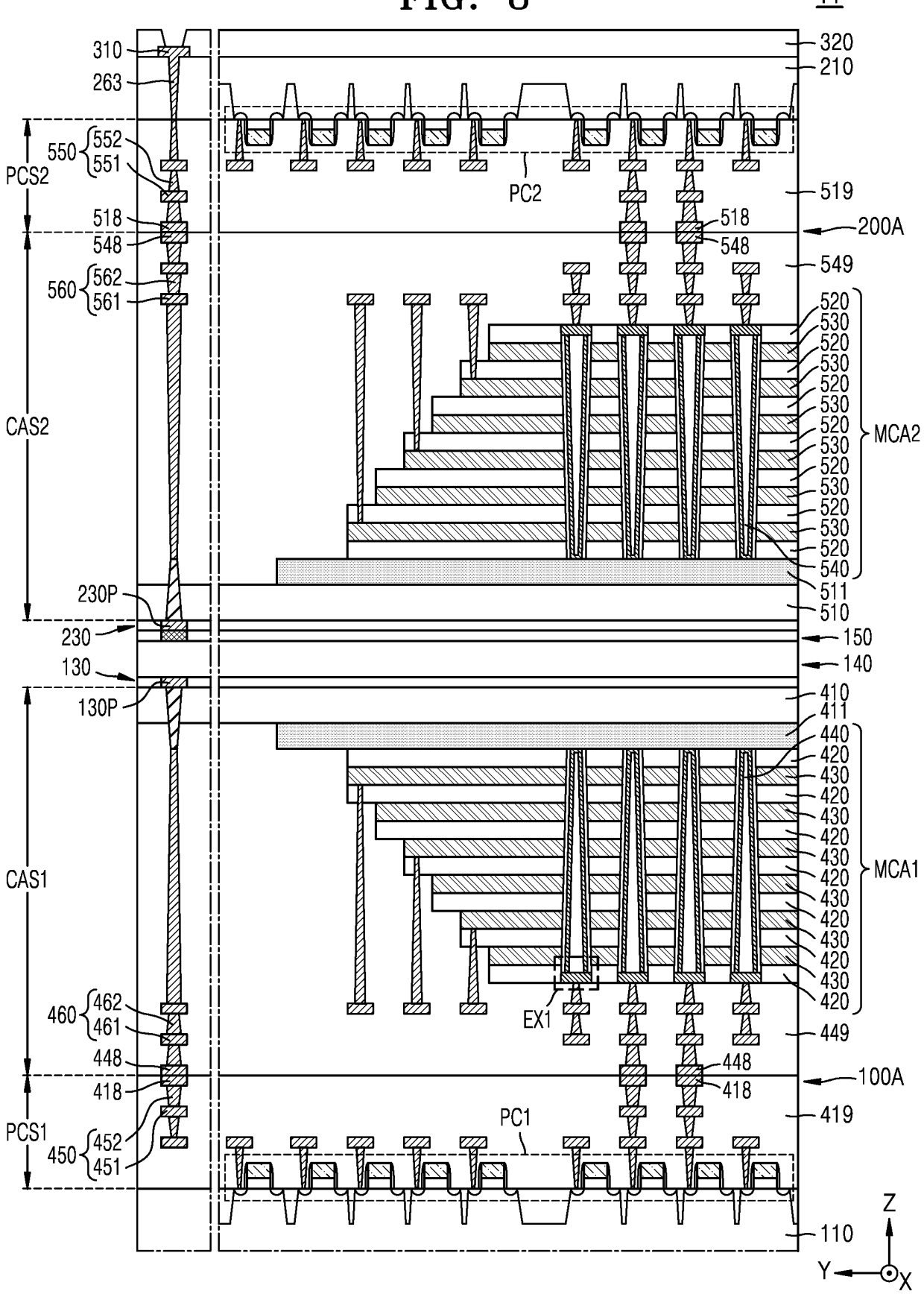

11
310
263
320
210
PCS2
550
552
551
PC2
519
518
518
200A
548
548
549
560
562
561
520
530
520
530
520
530
520
530
520
530
520
530
520
530
520
540
MCA2
CAS2
230P
511
510
230
150
130
140
130P
410
411
440
420
430
420
430
420
430
420
430
420
430
420
430
420
MCA1
CAS1
460
462
461
EX1
449
448
448
100A
418
418
PCS1
PC1
419
450
452
451
110
Z
Y
X

FIG. 9

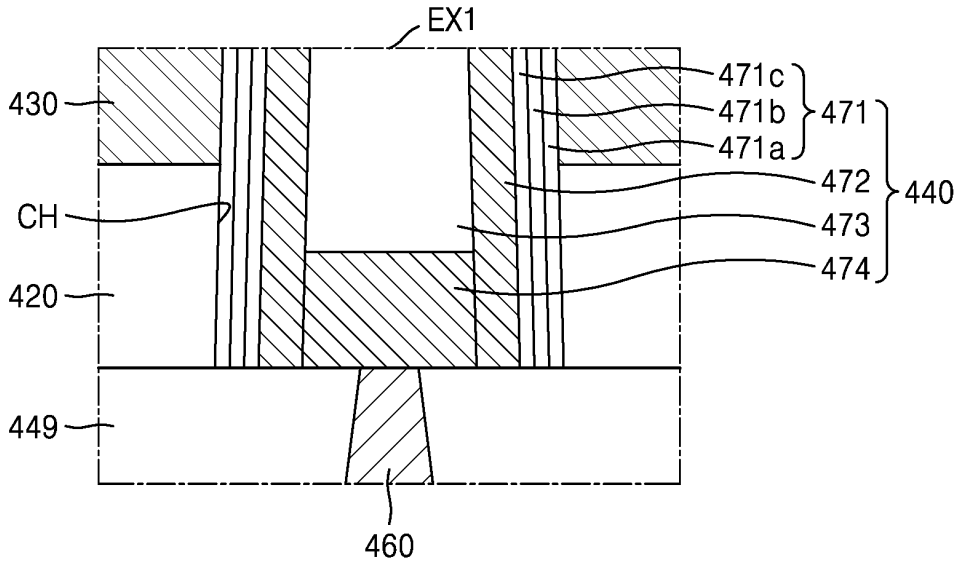


FIG. 10

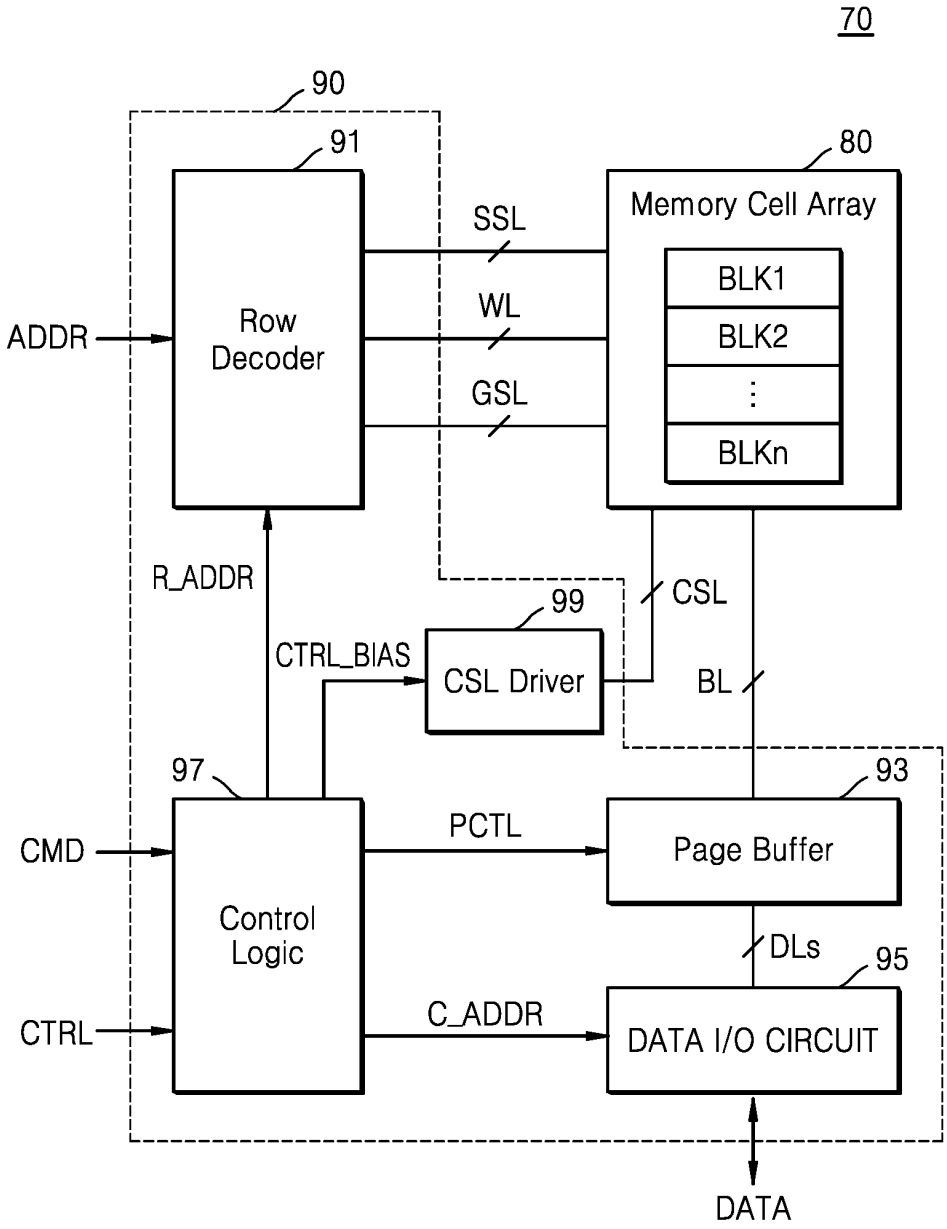

70
90
91
80
Memory Cell Array
SSL
WL
GSL
ADDR
Row Decoder
BLK1
BLK2
BLKn
R_ADDR
CSL
99
CTRL_BIAS
CSL Driver
BL
97
93
PCTL
CMD
Page Buffer
Control Logic
DLs
95
C_ADDR
CTRL
DATA I/O CIRCUIT
DATA

FIG. 11

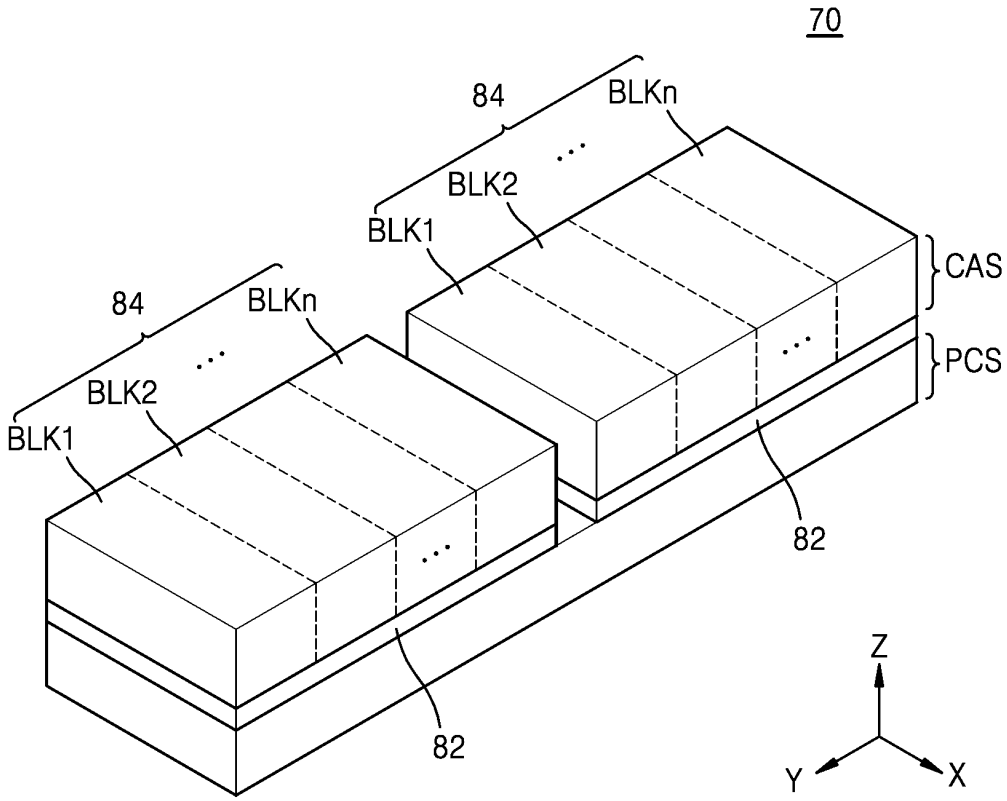


FIG. 12

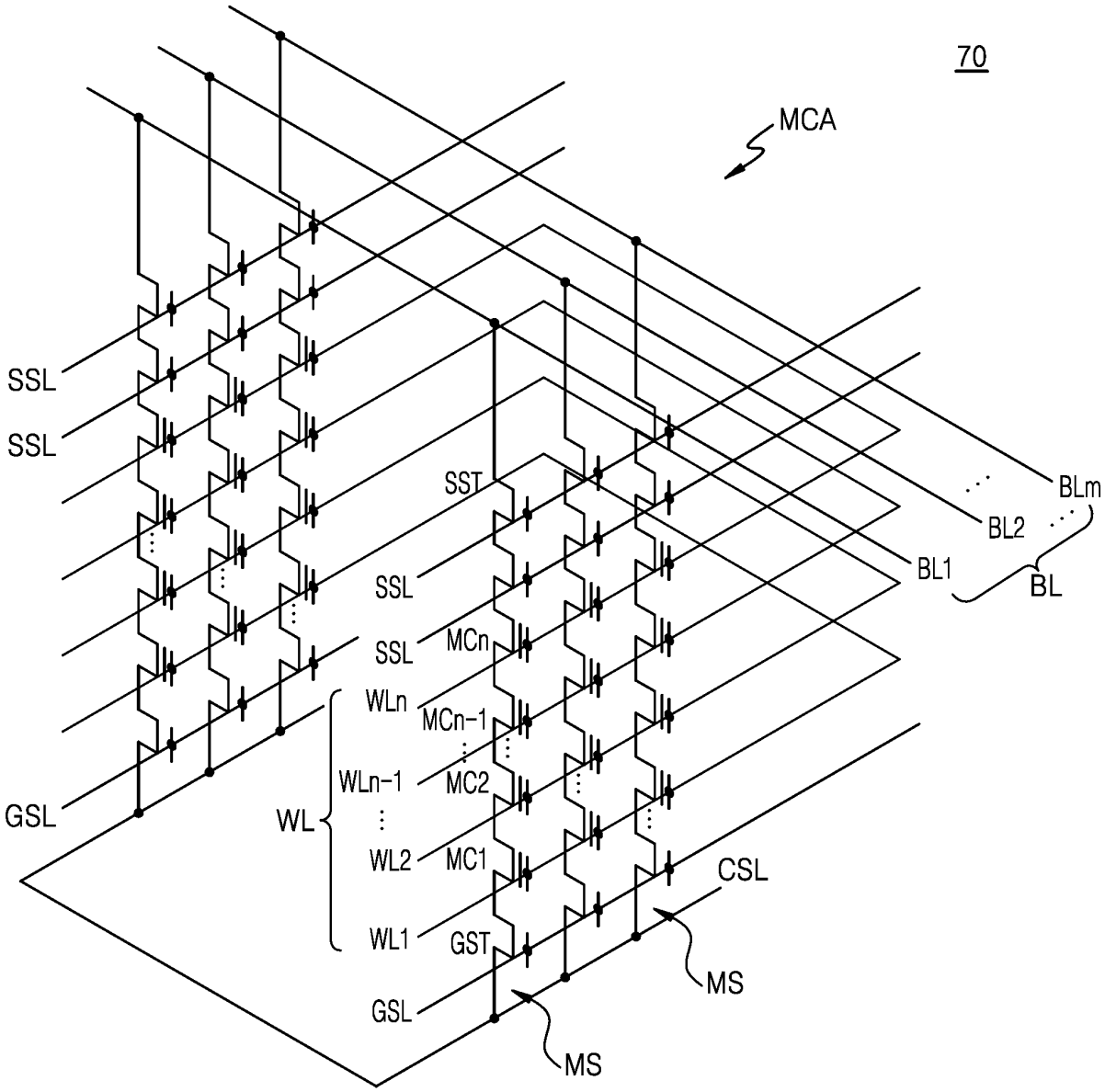

70
MCA
SSL
SSL
GSL
SST
SSL
SSL
WL
WLn
WLn-1
WL2
WL1
MCn
MCn-1
MC2
MC1
GST
GSL
BLm
BL2
BL1
BL
CSL
MS
MS

FIG. 13

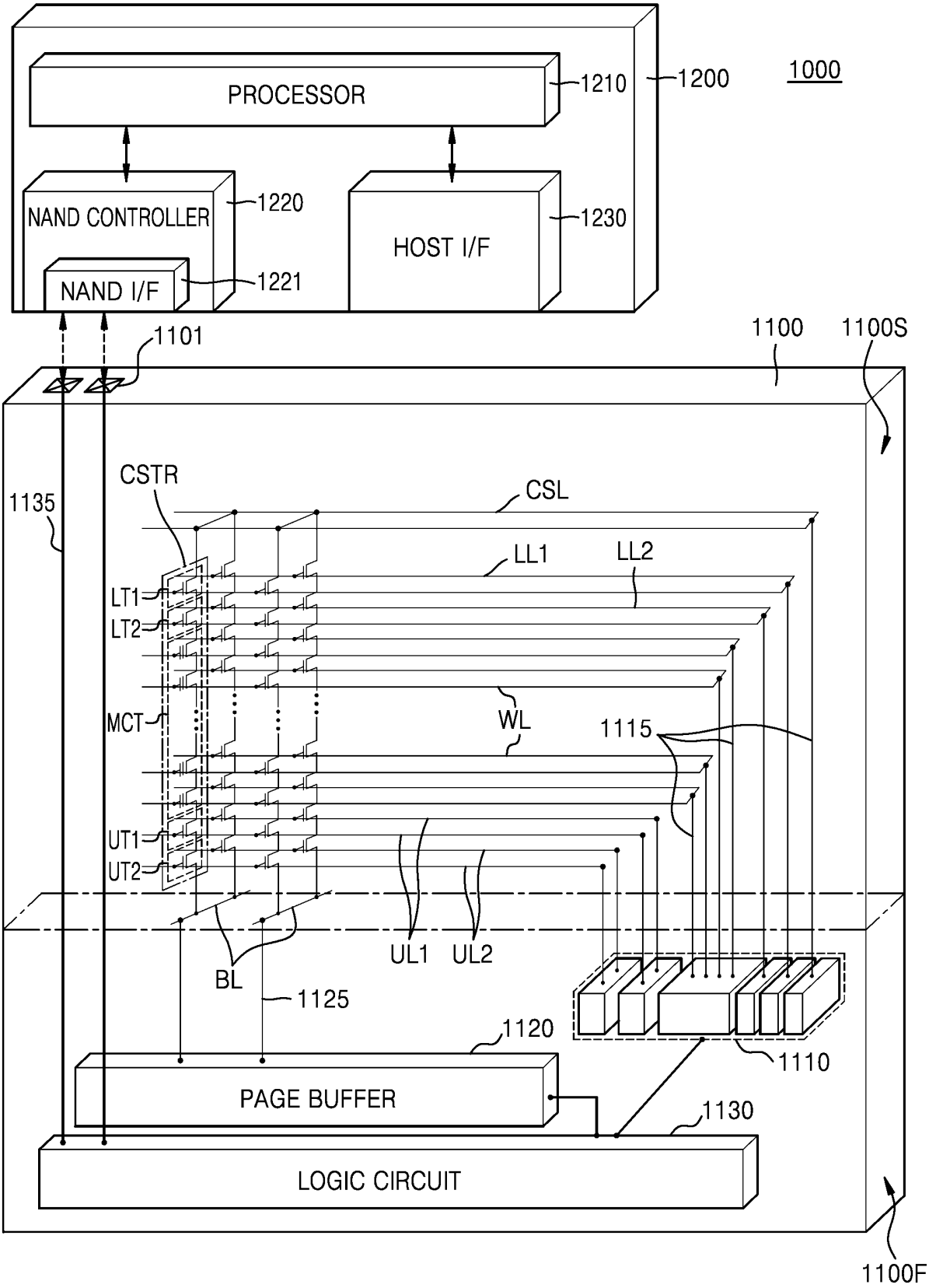
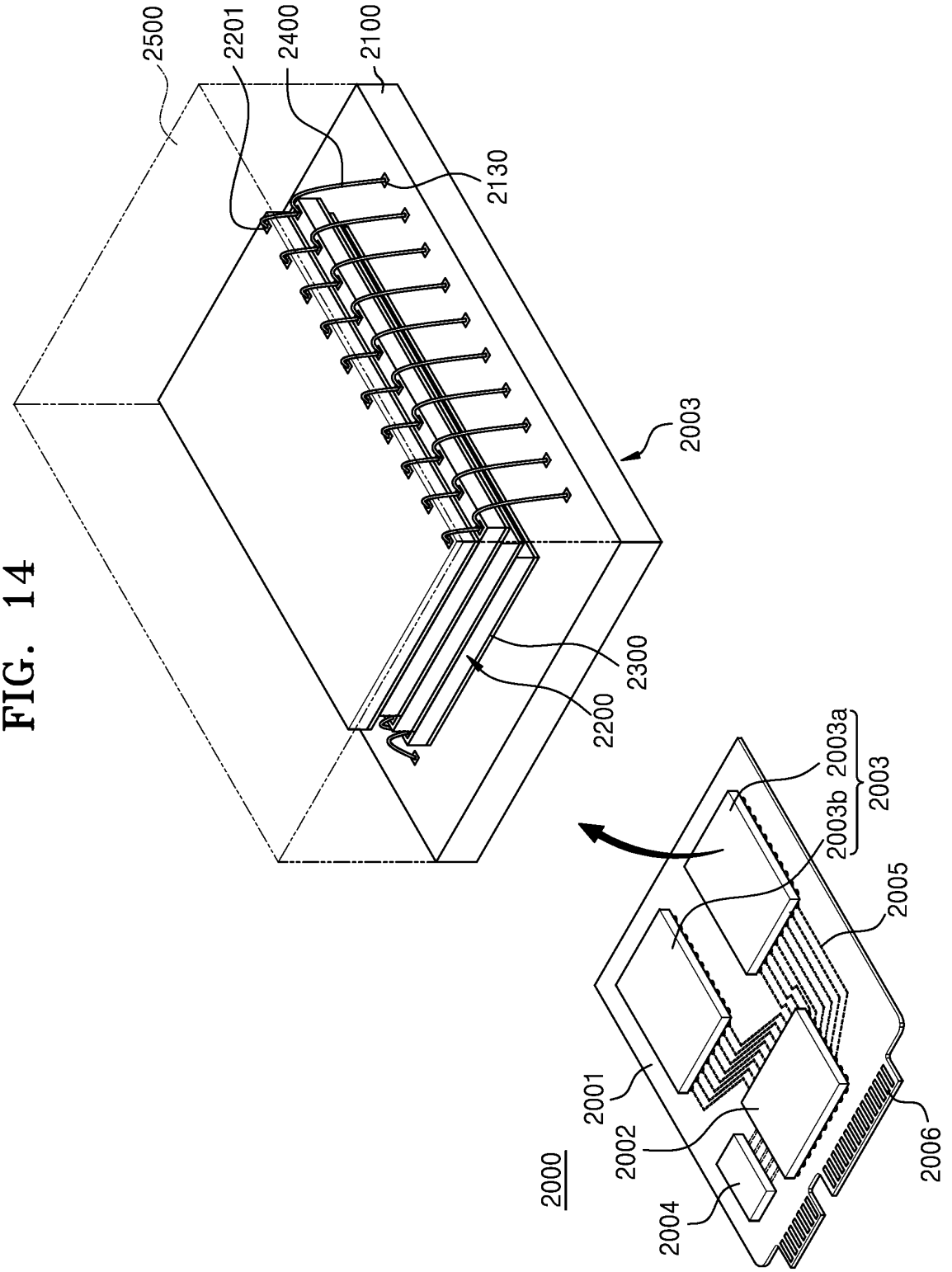

PROCESSOR
1210
1200
1000
NAND CONTROLLER
1220
HOST I/F
1230
NAND I/F
1221
1101
1100
1100S
CSTR
1135
CSL
LL1
LL2
LT1
LT2
MCT
WL
1115
UT1
UT2
UL1
UL2
BL
1125
1120
1110
PAGE BUFFER
1130
LOGIC CIRCUIT
1100F

FIG. 14


2500
2201
2400
2100
2130
2003
2300
2200
2003a
2003b
2003
2005
2001
2002
2004
2006
2000