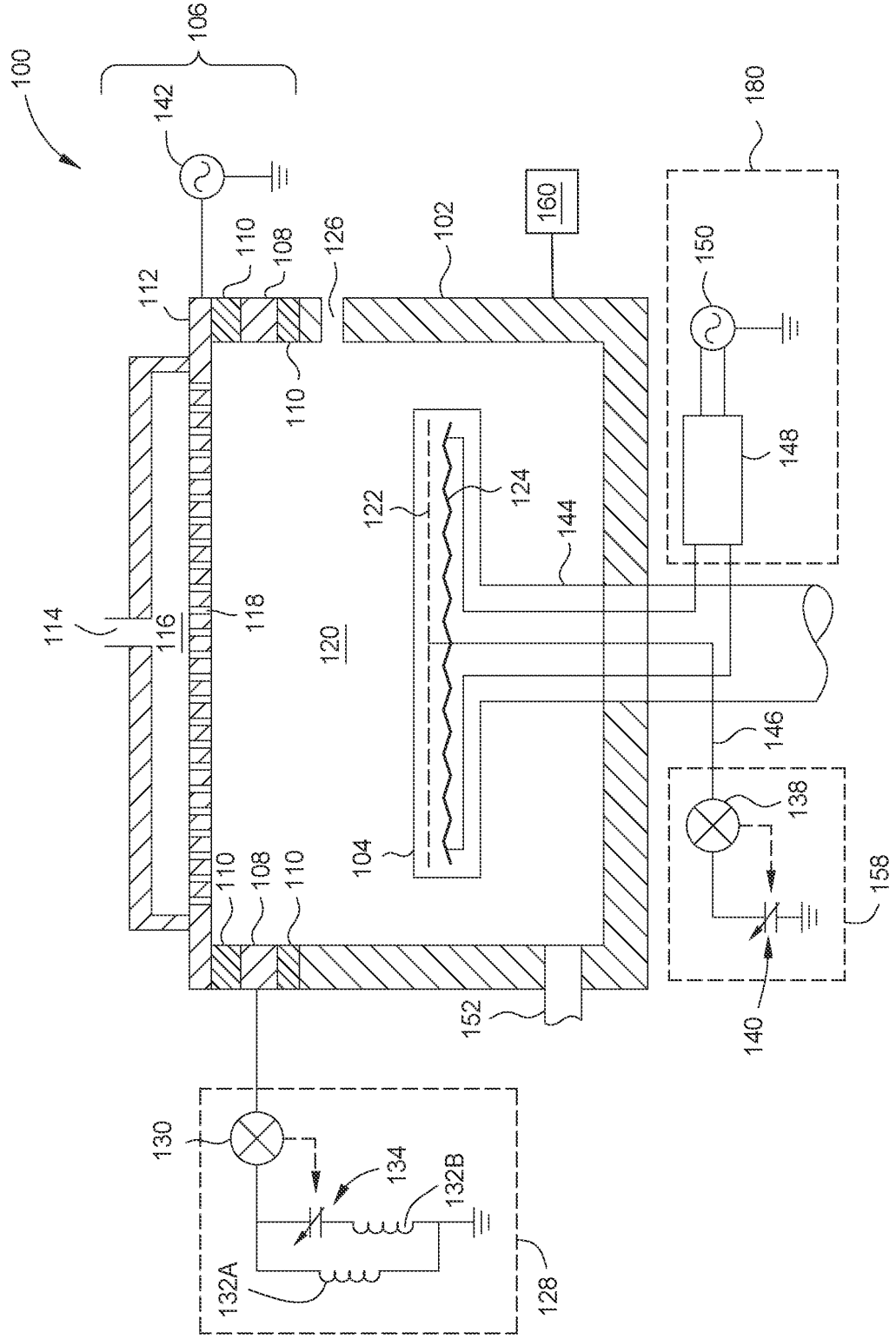

100
106
142
180
160
102
126
110
108
112
150
148
122
124
144
114
116
118
120
146
138
104
158
152
140
130
134
132B
132A
128

FIG. 1

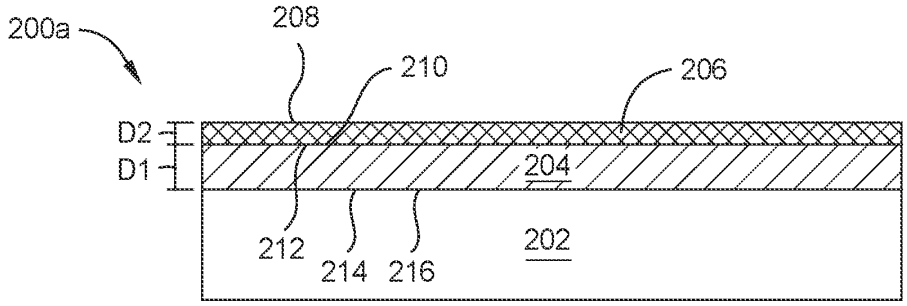


FIG. 2A

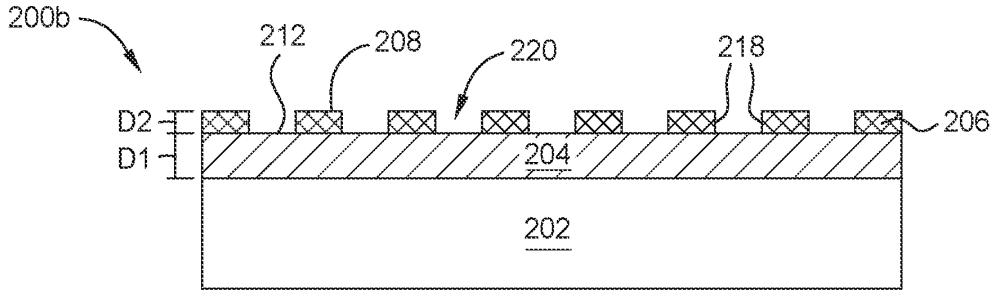


FIG. 2B

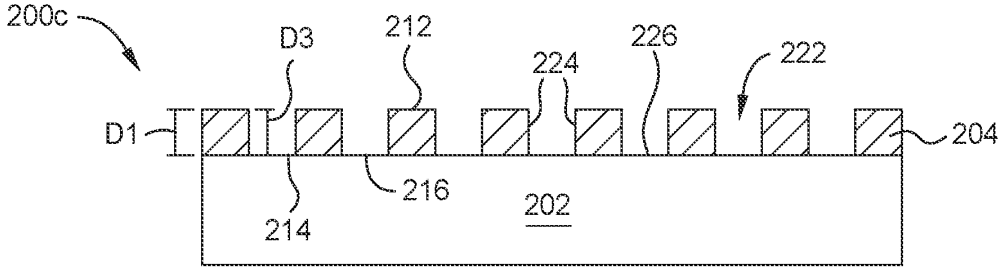


FIG. 2C

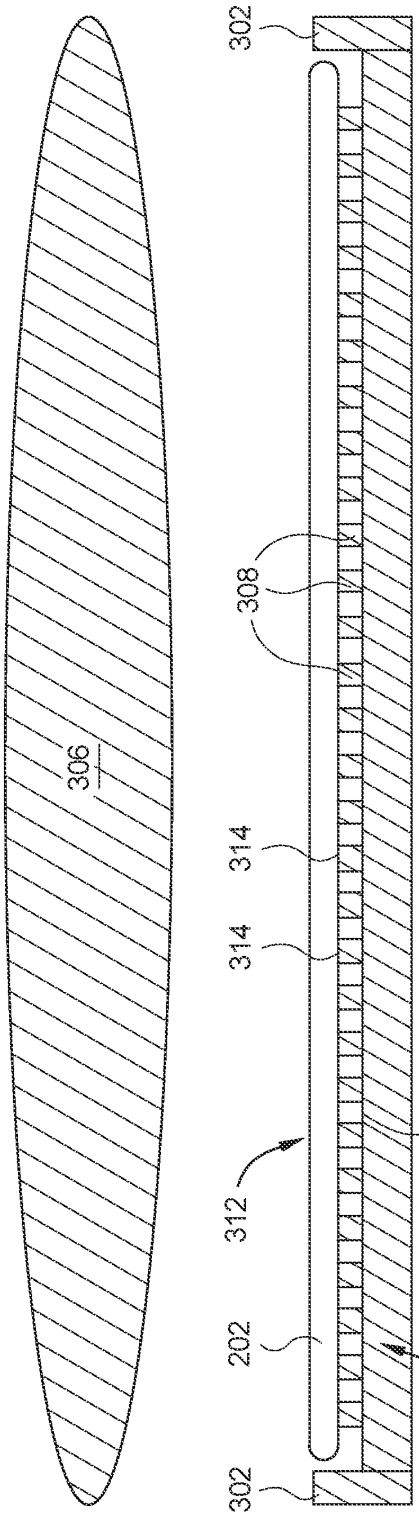


FIG. 3

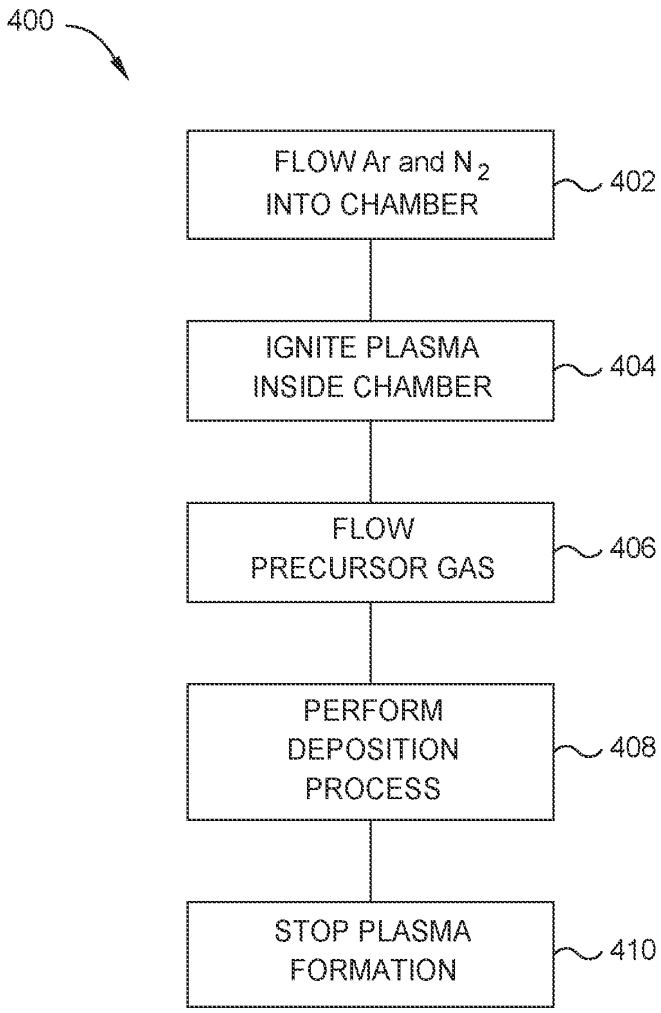

400
FLOW Ar and N_2 INTO CHAMBER
402
IGNITE PLASMA INSIDE CHAMBER
404
FLOW PRECURSOR GAS
406
PERFORM DEPOSITION PROCESS
408
STOP PLASMA FORMATION
410

FIG. 4

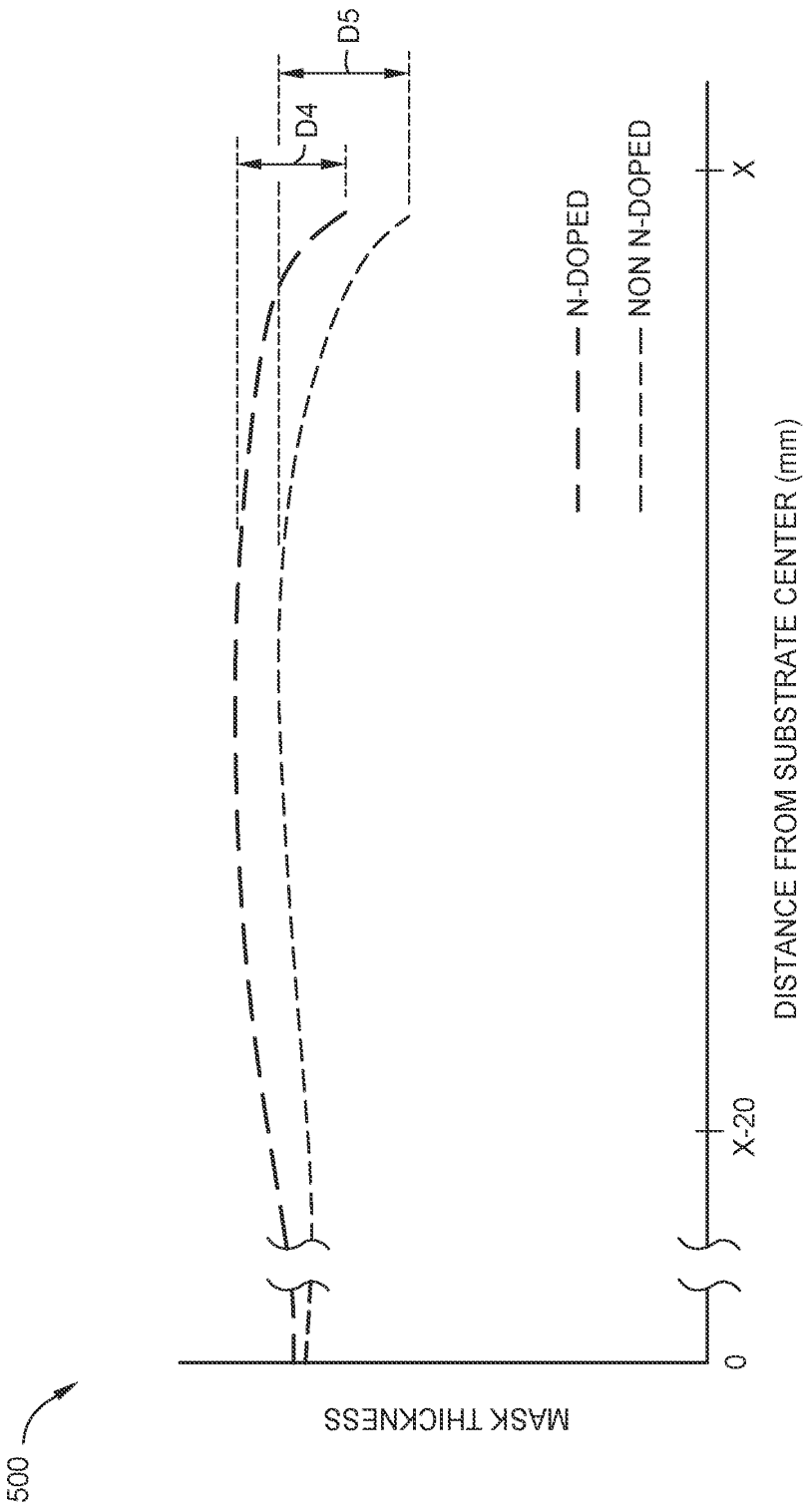

500
MASK THICKNESS
0
X-20
X
DISTANCE FROM SUBSTRATE CENTER (mm)
N-DOPED
NON N-DOPED
D4
D5

FIG. 5

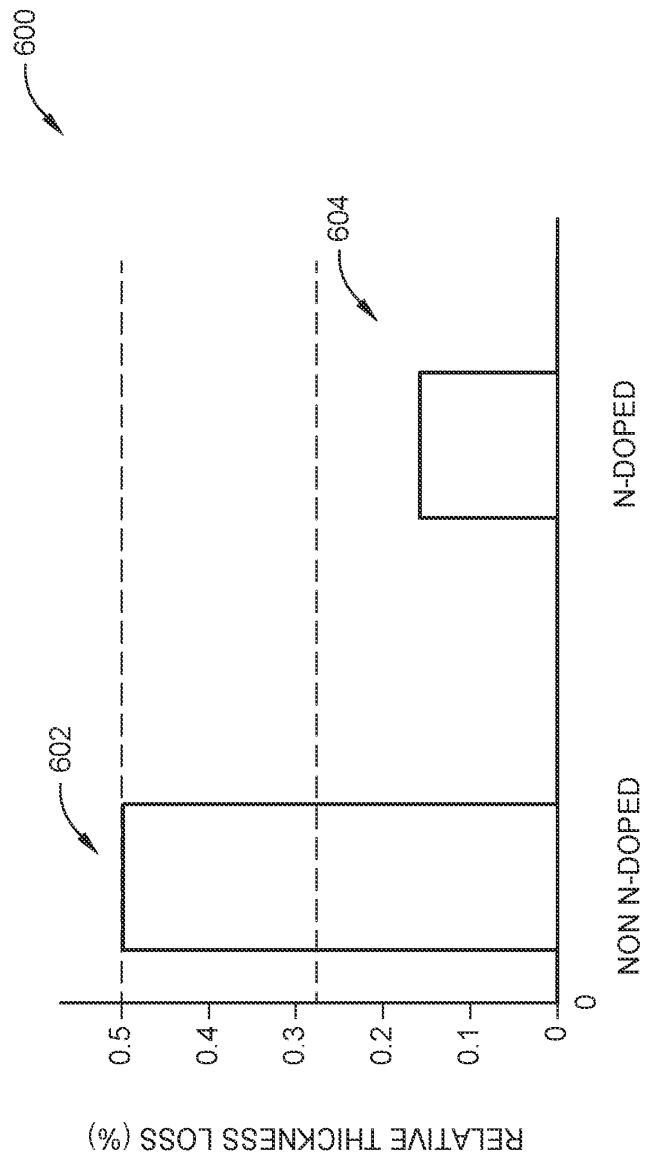

600
604
602
0.5
0.4
0.3
0.2
0.1
0
NON N-DOPED
N-DOPED
RELATIVE THICKNESS LOSS (%)

FIG. 6