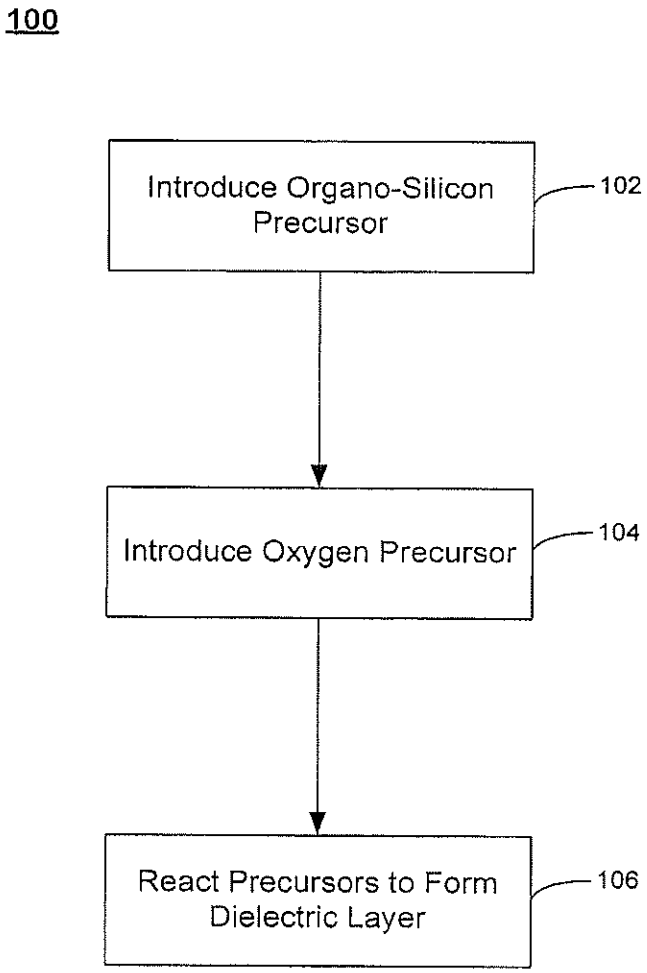

100
Introduce Organo-Silicon Precursor
102
Introduce Oxygen Precursor
104
React Precursors to Form Dielectric Layer
106

Fig. 1

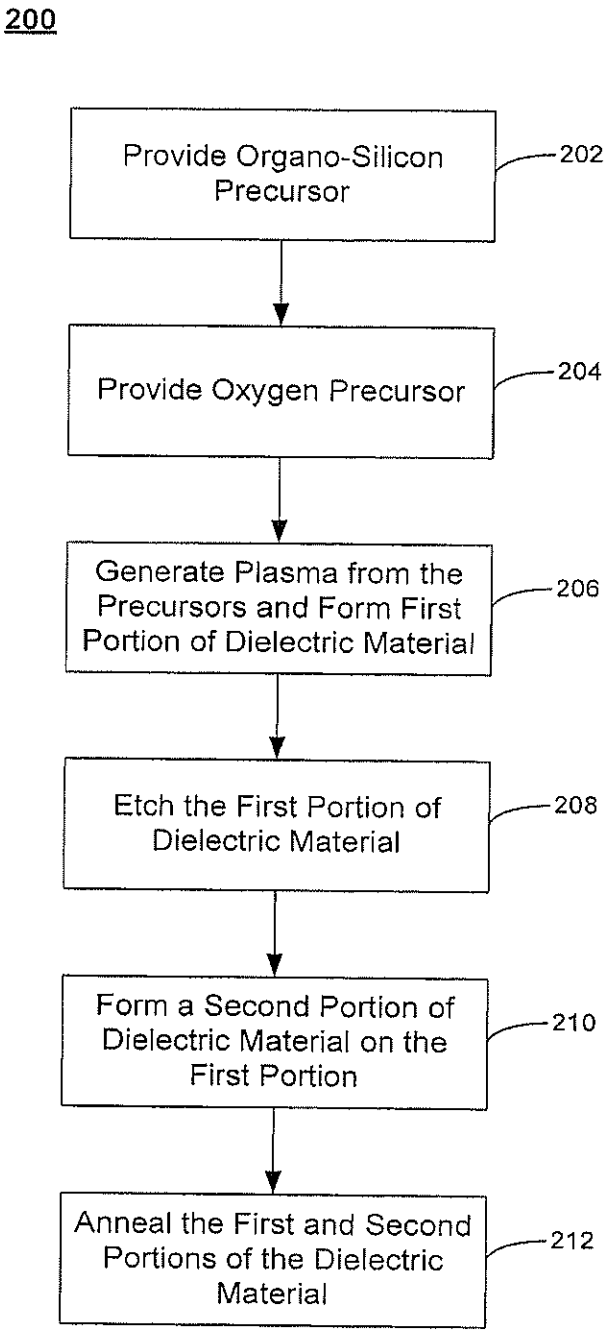

200
Provide Organo-Silicon Precursor
202
Provide Oxygen Precursor
204
Generate Plasma from the Precursors and Form First Portion of Dielectric Material
206
Etch the First Portion of Dielectric Material
208
Form a Second Portion of Dielectric Material on the First Portion
210
Anneal the First and Second Portions of the Dielectric Material
212

Fig. 2

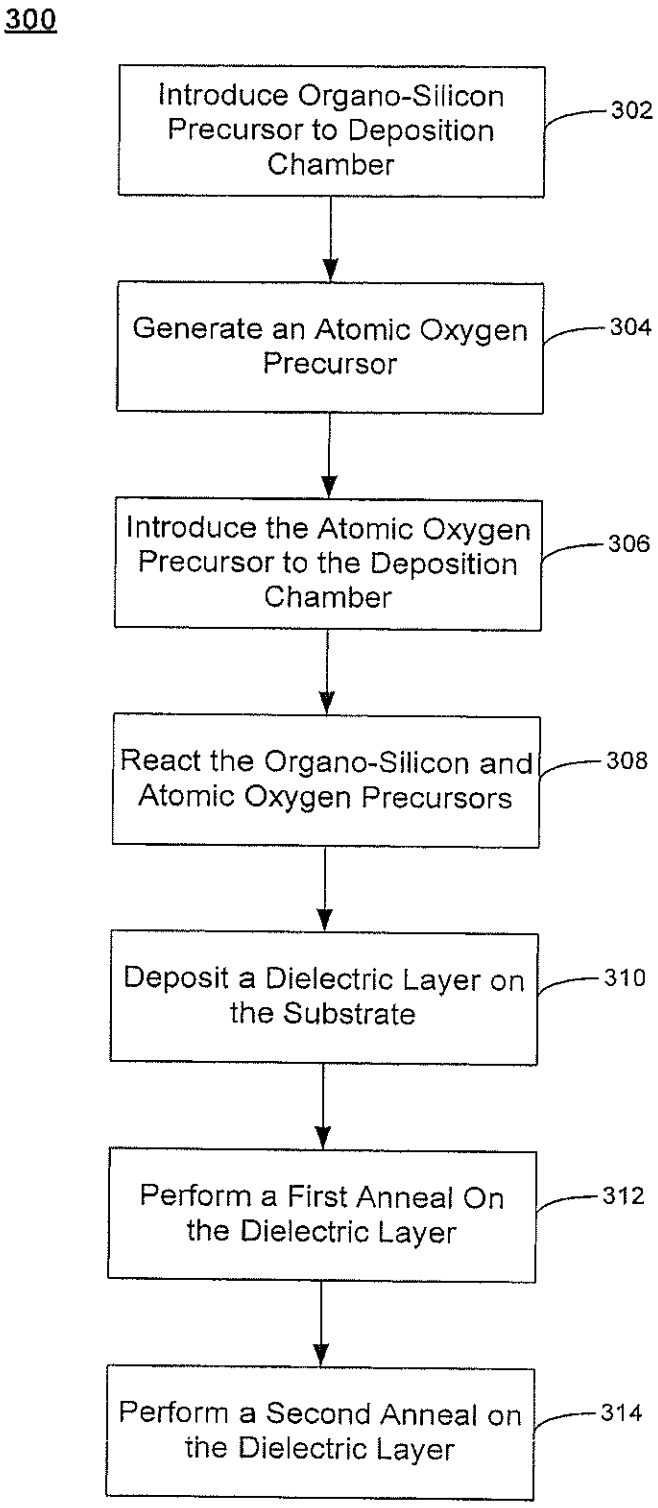

300
Introduce Organo-Silicon Precursor to Deposition Chamber
302
Generate an Atomic Oxygen Precursor
304
Introduce the Atomic Oxygen Precursor to the Deposition Chamber
306
React the Organo-Silicon and Atomic Oxygen Precursors
308
Deposit a Dielectric Layer on the Substrate
310
Perform a First Anneal On the Dielectric Layer
312
Perform a Second Anneal on the Dielectric Layer
314

Fig. 3

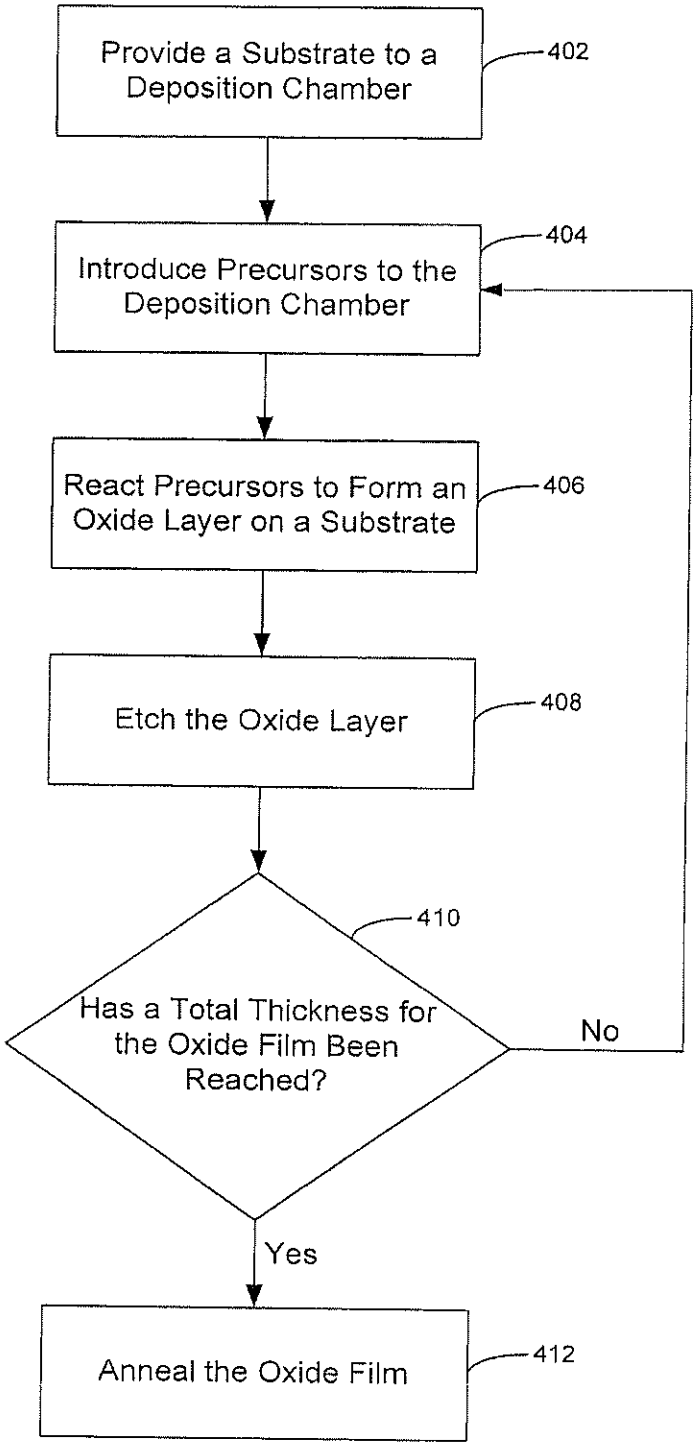

Provide a Substrate to a Deposition Chamber
402
Introduce Precursors to the Deposition Chamber
404
React Precursors to Form an Oxide Layer on a Substrate
406
Etch the Oxide Layer
408
Has a Total Thickness for the Oxide Film Been Reached?
410
No
Yes
Anneal the Oxide Film
412

Fig. 4

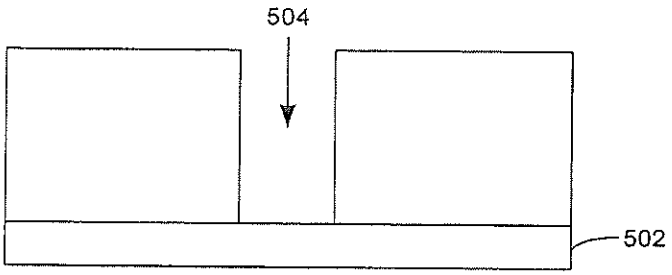


Fig. 5A

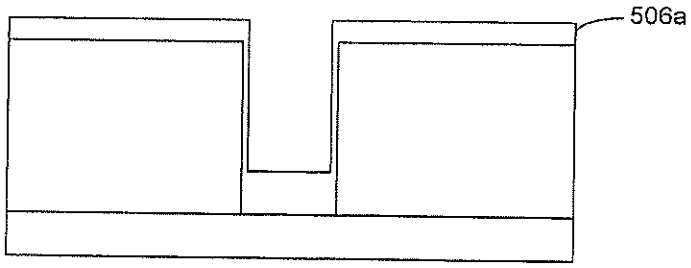


Fig. 5B

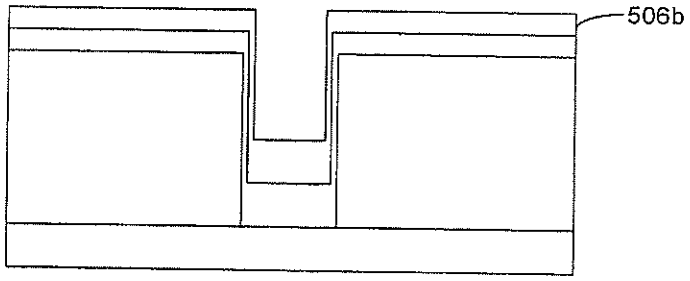


Fig. 5C

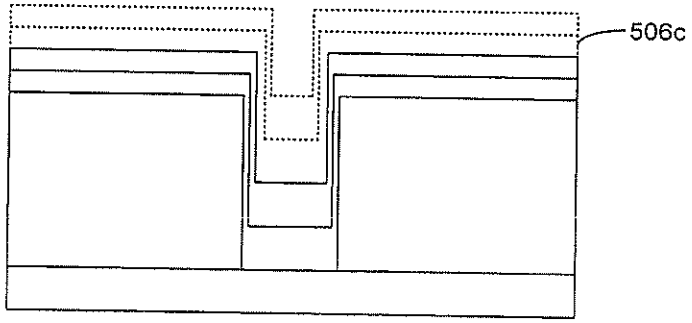


Fig. 5D

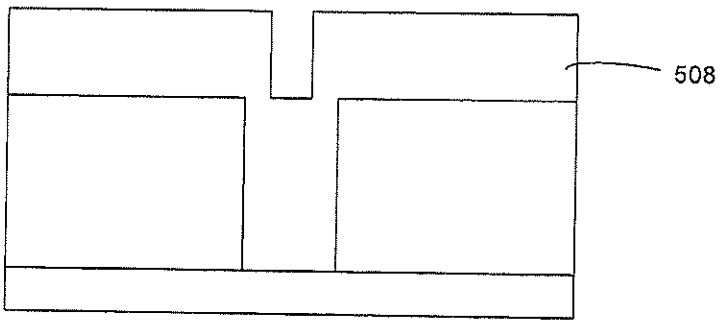


Fig. 5E

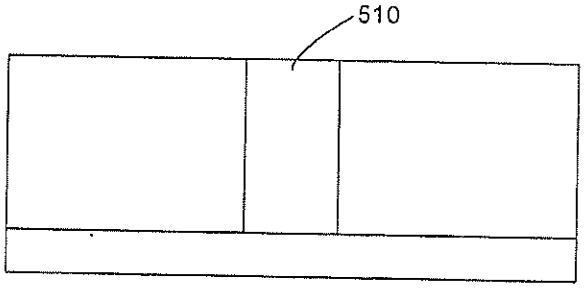


Fig. 5F

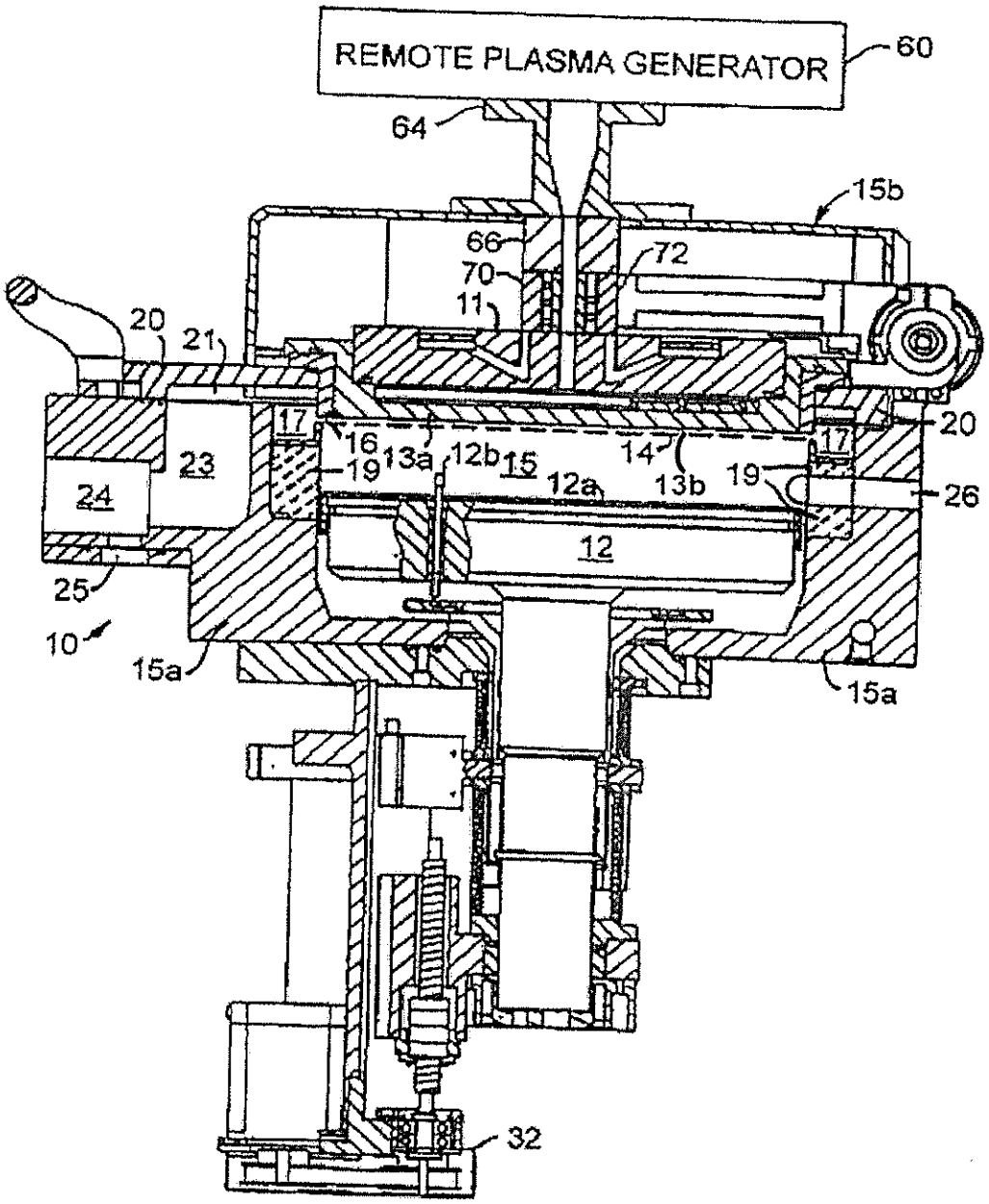

REMOTE PLASMA GENERATOR
60
64
15b
66
70
11
72
20
21
17
16
19
13a
12b
15
12a
14
13b
19
17
20
26
23
24
12
25
10
15a
15a
32

Fig. 6A

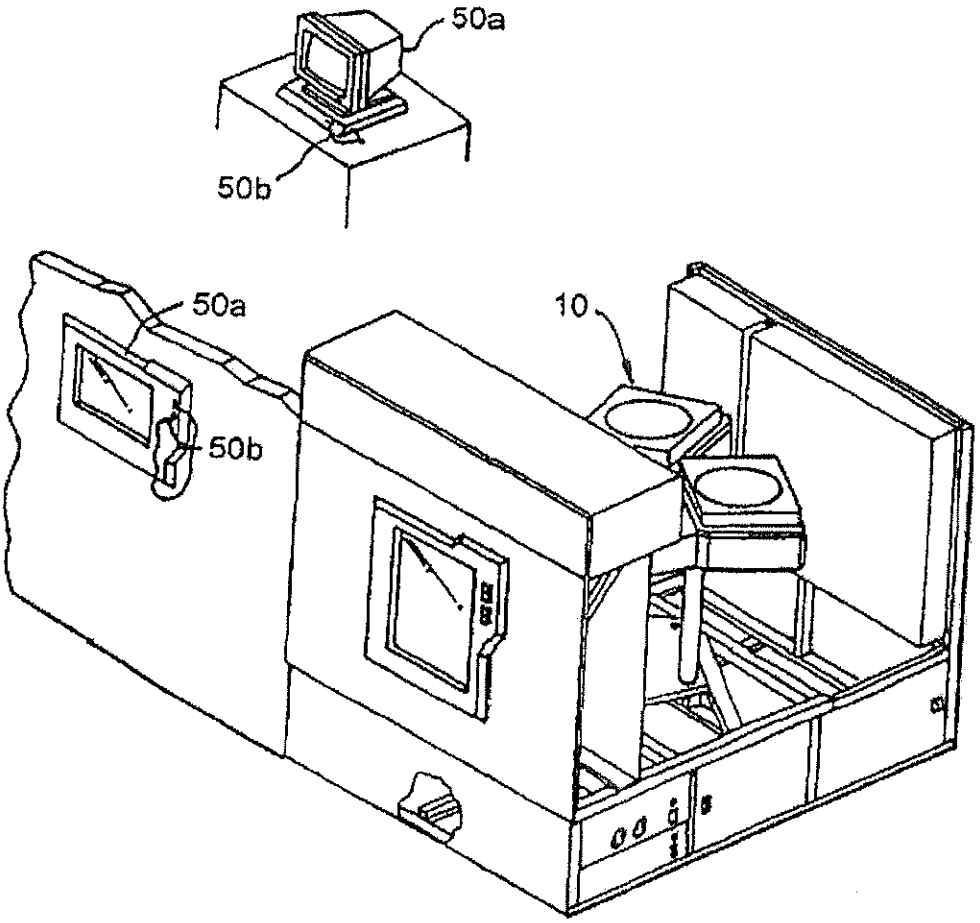


Fig. 6B