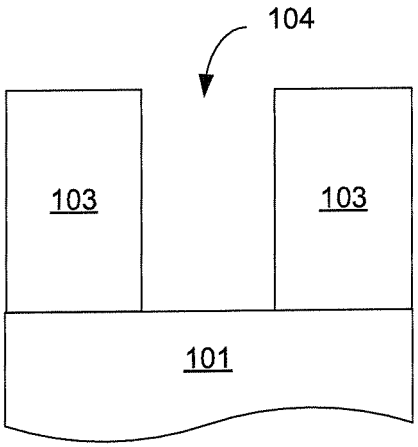


FIG. 1A

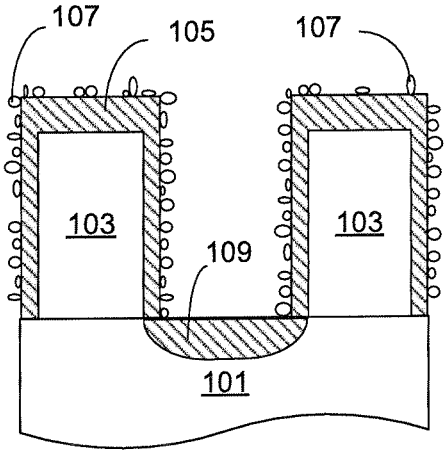


FIG. 1B

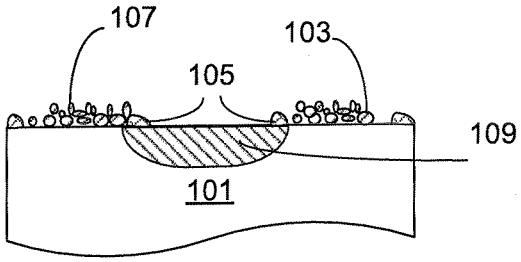


FIG. 1C

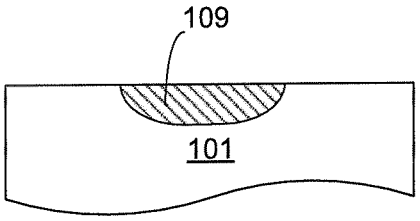


FIG. 1D

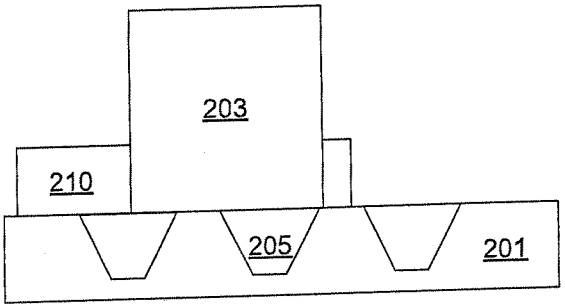


FIG. 2A

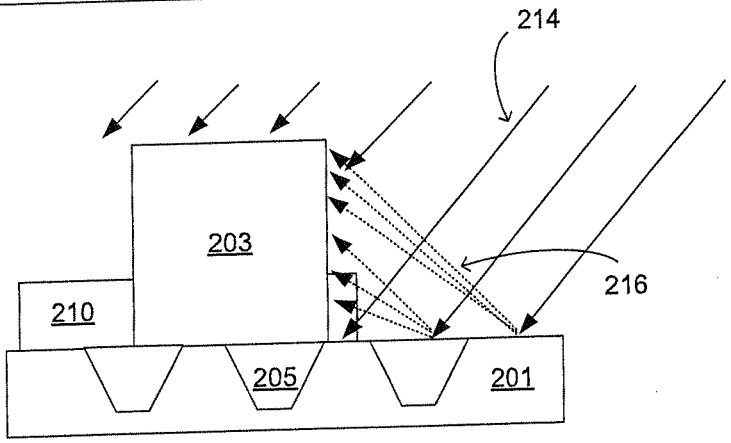


FIG. 2B

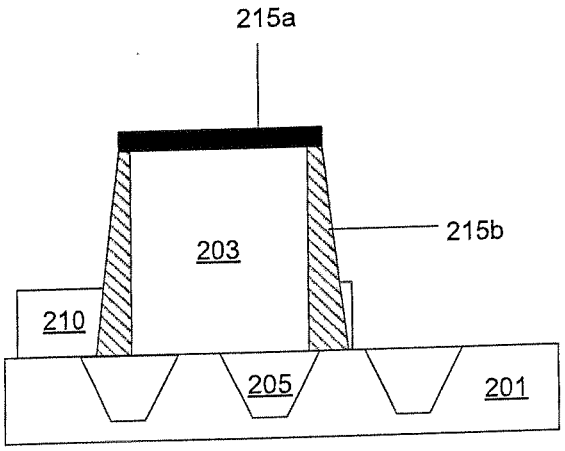


FIG. 2C

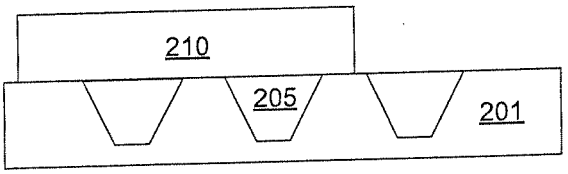


FIG. 2D

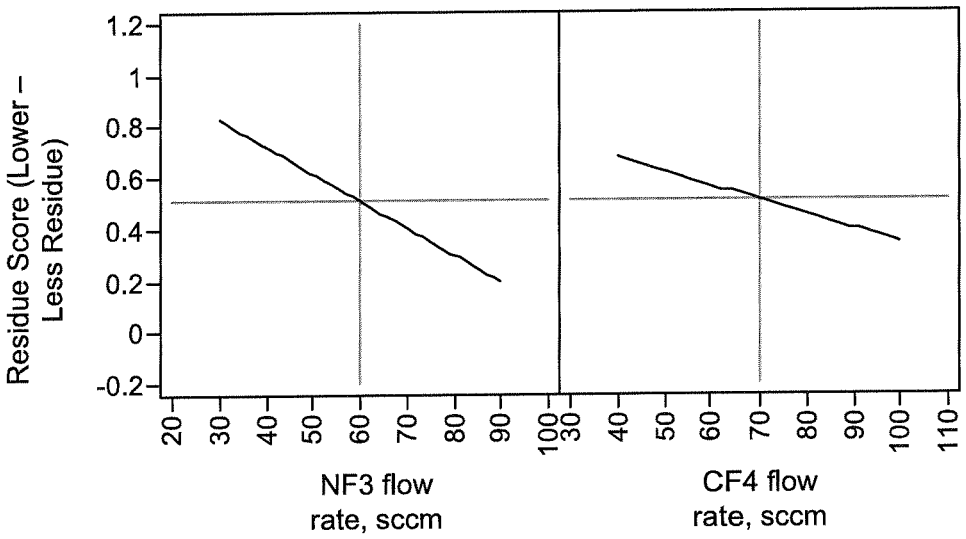

Residue Score (Lower – Less Residue)
1.2
1
0.8
0.6
0.4
0.2
0
-0.2
20 30 40 50 60 70 80 90 100
30 40 50 60 70 80 90 100 110
NF3 flow rate, sccm
CF4 flow rate, sccm

FIG. 3A

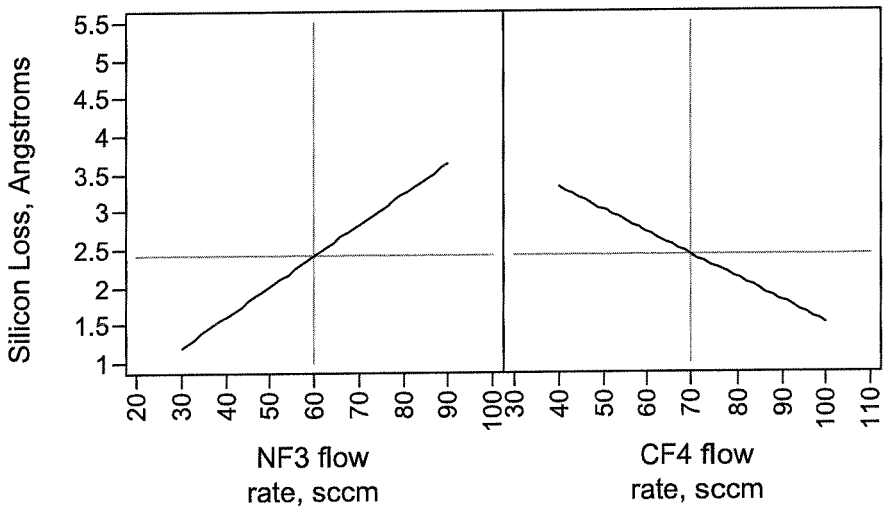

Silicon Loss, Angstroms
5.5
5
4.5
4
3.5
3
2.5
2
1.5
1
20 30 40 50 60 70 80 90 100
30 40 50 60 70 80 90 100 110
NF3 flow rate, sccm
CF4 flow rate, sccm

FIG. 3B

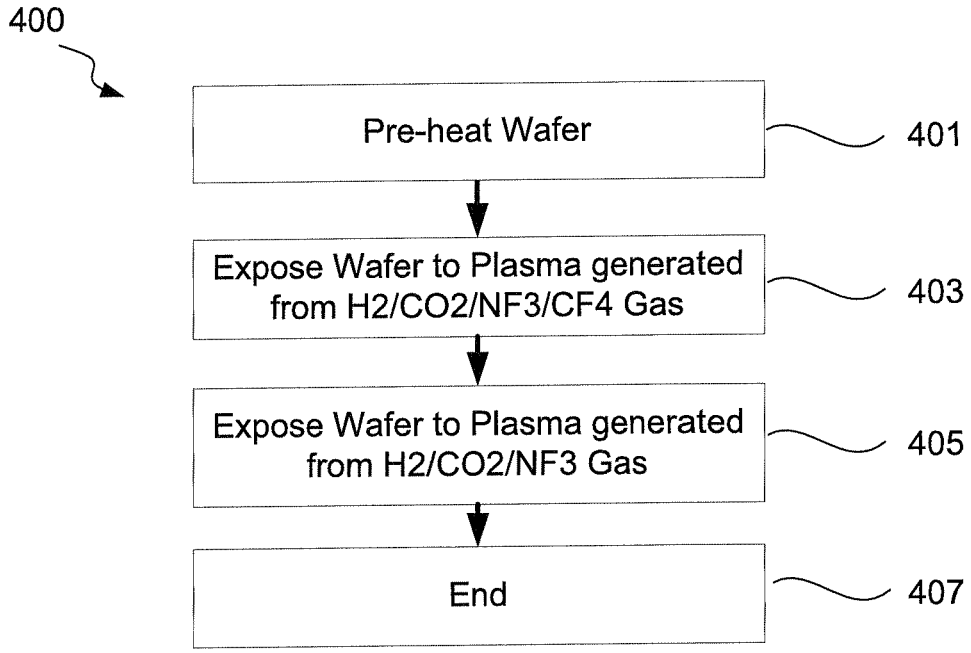

400
Pre-heat Wafer
401
Expose Wafer to Plasma generated from H2/CO2/NF3/CF4 Gas
403
Expose Wafer to Plasma generated from H2/CO2/NF3 Gas
405
End
407

FIG. 4

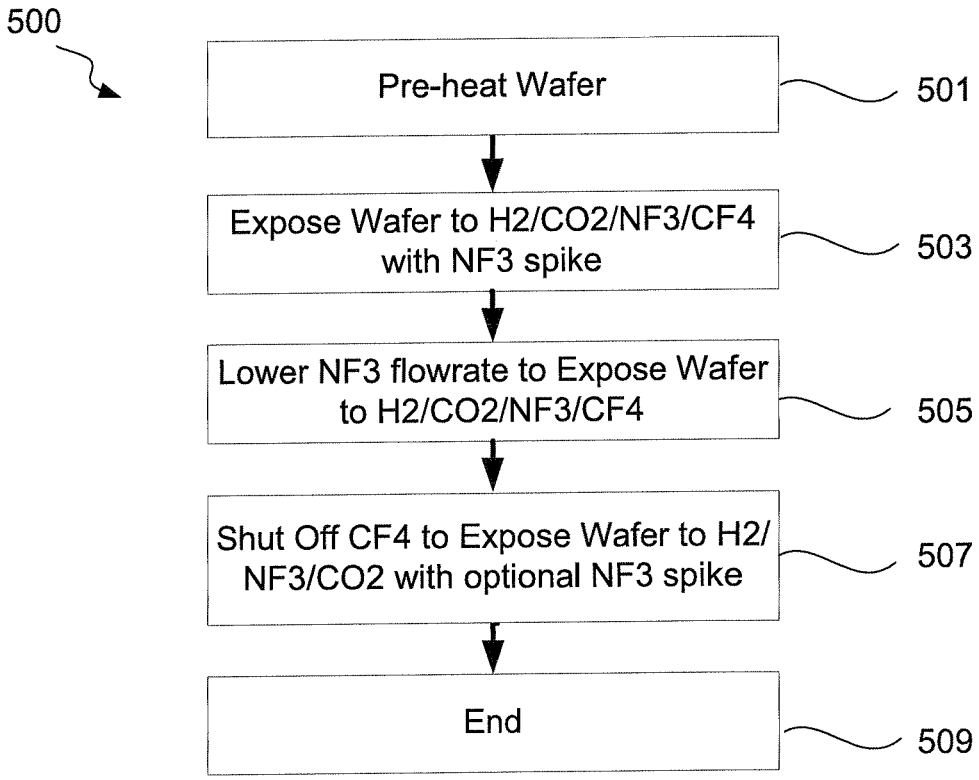

500
Pre-heat Wafer
501
Expose Wafer to H2/CO2/NF3/CF4 with NF3 spike
503
Lower NF3 flowrate to Expose Wafer to H2/CO2/NF3/CF4
505
Shut Off CF4 to Expose Wafer to H2/ NF3/CO2 with optional NF3 spike
507
End
509

FIG. 5

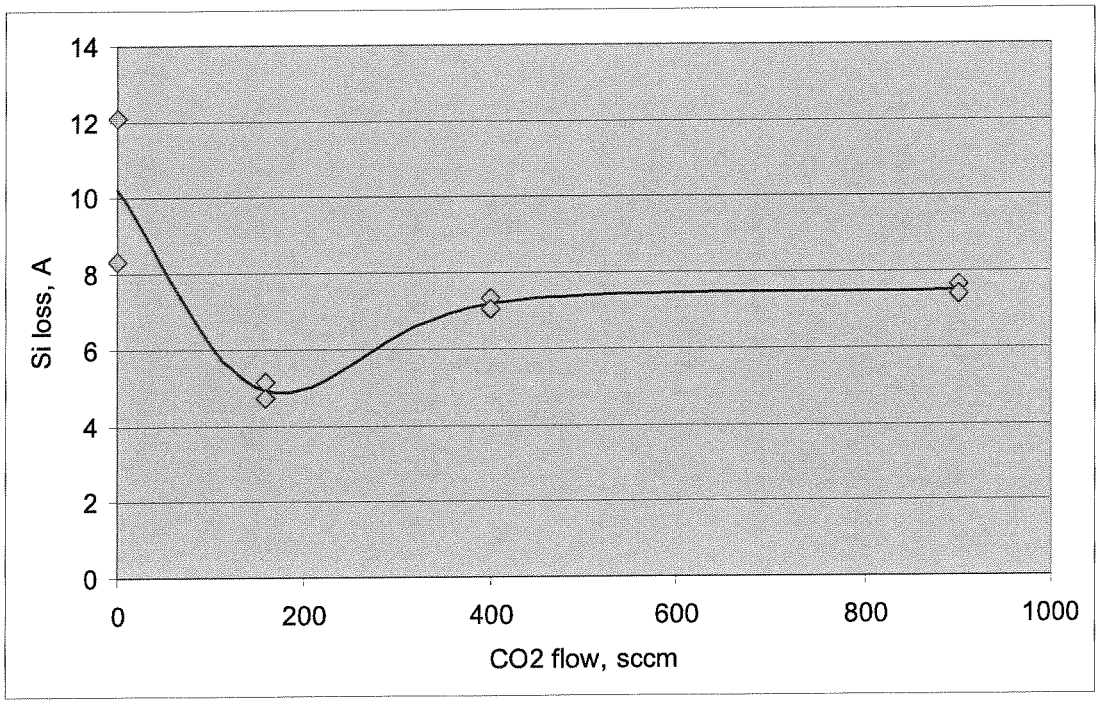


FIG. 6

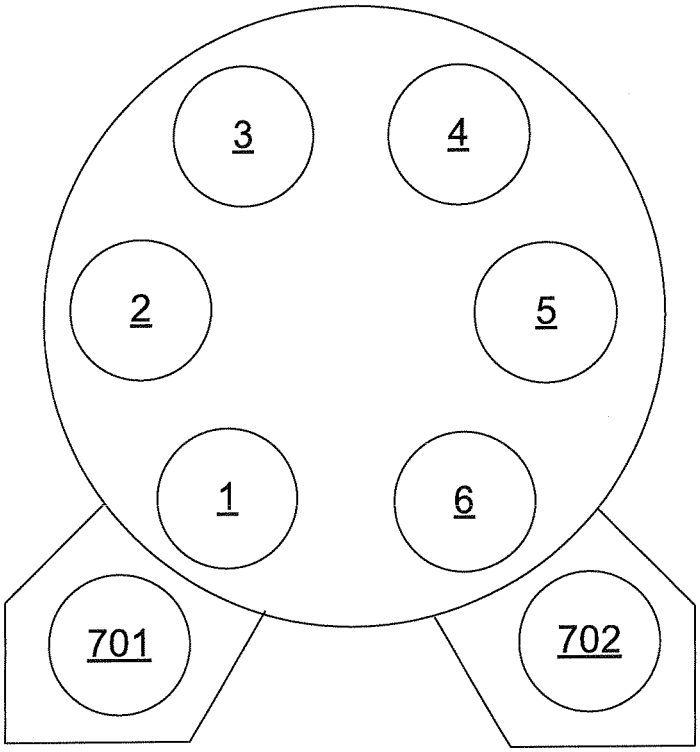


FIG. 7

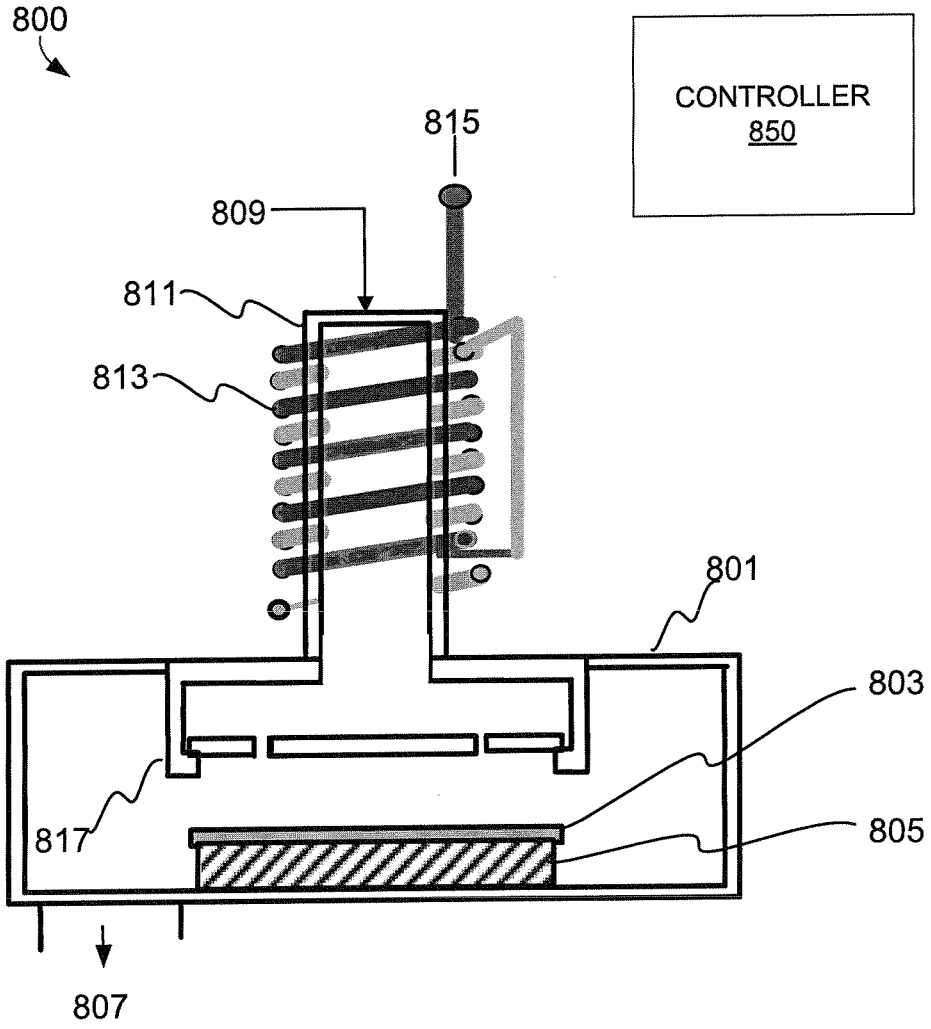


FIG. 8