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[Continued on next page]

(54) Title: PROCESS CHAMBER FOR DIELECTRIC GAPFILL

100

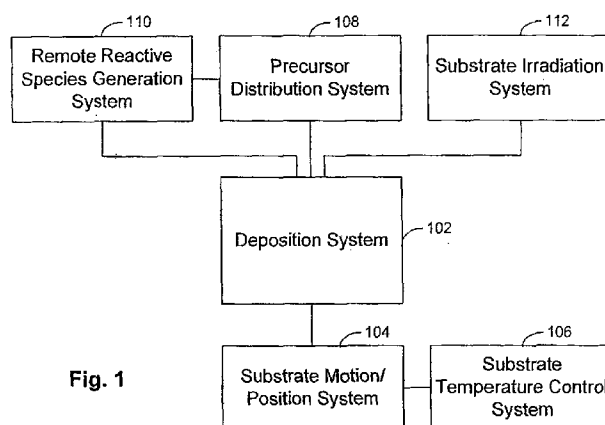


Fig. 1

(57) Abstract: A system (100) to form a dielectric layer on a substrate from a plasma of dielectric precursors is described. The system (100) may include a deposition chamber (201), a substrate stage in the deposition chamber (201) to hold the substrate, and a remote plasma generating system coupled to the deposition chamber (201), where the plasma generating system is used to generate a dielectric precursor having one or more reactive radicals. The system (100) may also include a precursor distribution system (700) comprising a dual-channel showerhead (700) positioned above the substrate stage. The showerhead (700) may have a faceplate (802) with a first set of openings (804) through which the reactive radical precursor enters the deposition chamber (201), and a second set of openings (806) through which a second dielectric precursor enters the deposition chamber (201). An in-situ plasma generating system may also be included to generate the plasma in the deposition chamber (201) from the dielectric precursors supplied to the deposition chamber (201).



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According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 118/715

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EAST

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5016332 A (Reichelderfer, Richard F. et al) 21 May 1991 (21.05.1991); (Figure 1; column 1; lines 40-61)	1-24
Y	US 5635409 A (Moslehi; Mehrdad M.) 03 June 1997 (03.06.1997); column 1; lines 10-18	1-16
Y	US 20030172872 A1 (Thakur, Randhir P.S. et al.) 18 September 2003 (18.09.2003) [0062]	16-24

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:

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"O"	document referring to an oral disclosure, use, exhibition or other means	"&"	document member of the same patent family
"P"	document published prior to the international filing date but later than the priority date claimed		

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