PATENT

REEL: 010688 FRAME: 0964

	For x U.S. and/or x Foreign Rights
	For X Application or U.S. Patent
	By X Inventor(s) or Present Owner
ASSIGNMENT OF INVENTION	
In consideration of the payment by ASSIGNEE to ASSIGNOR of the sum of One Dollar (\$1.00), the receipt of which is hereby acknowledged, and for other good and valuable consideration,	
ASSIGNOR:	
Type or print name of ASSIGNOR  No 43, 3 F. Lane 10') 11. Show.  Address  North Rd. Taper Roc  Rationality  ASSIGNEE:	NO9. Da Ya Country Taichung
Taiwan Semiconductor Manufacturing Co. Ltd. 121 Park Ave. 3 Science-Based Industrial Park Hsin-Chu, Taiwan, R.O.C. Taiwan, R.O.C.  Nationality	
and the successors, assigns and legal repres	entatives of the ASSIGNEE
(complete	one of the following)
x the entire right, title and interest	
	interest for the United States and its territorial possessions in rights are also to be assigned)

in and to any and all improvements which are disclosed in the invention entitled:

Fabrication Process For Low Resistivity Tungsten Layer With Good Adhesion To Insulator Layers

PATENT REEL: 010688 FRAME: 0965

behalf of ASSIGNOR  Title	(b) U.S. patent application executed on	T
(e) and any legal equivalent thereof in a foreign country, including the right to clam priority and, in and to, all Letters Patent to be obtained for said invention by the above application or any continuation, division, renewal, or substitute, thereof, and as to letters patent any re-issue or re-examination thereof  ASSIGNOR hereby covenants that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment.  ASSIGNOR further covenants that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said invention and said Letters Patent and legal equivalents as may be known and accessible to ASSIGNOR and will testify as to the same in any interference, litigation or proceeding related thereto and will promptly execute and deliver to ASSIGNEE or its legal representatives any and all papers, instruments or affidavits required to apply for, obtain, maintain, issue and enforce said application, said invention and said Letters Patent and said equivalents thereof which may be necessary or desirable to carry out the purposes thereof.  IN WITNESS WHEREOF, I / We have signed this	(c) U.S. application serial no.	filed on
(e) and any legal equivalent thereof in a foreign country, including the right to clam priority and, in and to, all Letters Patent to be obtained for said invention by the above application or any continuation, division, renewal, or substitute, thereof, and as to letters patent any re-issue or re-examination thereof.  ASSIGNOR hereby covenants that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment.  ASSIGNOR further covenants that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said invention and said Letters Patent and legal equivalents as may be known and accessible to ASSIGNOR and will testify as to the same in any interference, litigation or proceeding related thereto and will promptly execute and deliver to ASSIGNEE or its legal representatives any and all papers, instruments or affidavits required to apply for, obtain, maintain, issue and enforce said application, said invention and said Letters Patent and said equivalents thereof which may be necessary or desirable to carry out the purposes thereof.  IN WITNESS WHEREOF, I // We have signed this Signature of signing must be the same as the date of execution of the application if item (a) was checked above.  **Signature of ASSIGNOR**  Title  Title	(d) U.S. patent no.	issued
and, in and to all Letters Patent to be obtained for said invention by the above application or any continuation, division, renewal, or substitute, thereof, and as to letters patent any re-issue or re-examination thereof  ASSIGNOR hereby covenants that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment.  ASSIGNOR further covenants that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said invention and said Letters Patent and legal equivalents as may be known and accessible to ASSIGNOR and will testify as to the same in any interference, litigation on proceeding related thereto and will promptly execute and deliver to ASSIGNEE or its legal representatives any and all papers, instruments or affidavits required to apply for, obtain, maintain, issue and enforce said application, said invention, and said Letters Patent and said equivalents thereof which may be necessary or desirable to carry out the purposes thereof.  IN WITNESS WHEREOF, 17 We have signed this	(also check	(e) if foreign application(s) is also being assigned)
ASSIGNOR hereby covenants that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment.  ASSIGNOR further covenants that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said invention and said Letters Patent, and legal equivalents as may be known and accessible to ASSIGNOR and will testify as to the same in any interference, litigation or proceeding related thereto and will promptly execute and deliver to ASSIGNEE or its legal representatives any and all papers instruments or affidavits required to apply for, obtain, maintain, issue and enforce said application, said invention, and said Letters Patent and said equivalents thereof which may be necessary or desirable to carry out the purposes thereof.  IN WITNESS WHEREOF, I / We have signed this  Jan Joon (Date of signing)  WARNING Date of signing must be the same as the date of execution of the application if item (a) was checked above.  Tipe or print the name of the above person authorized to sign or behalf of ASSIGNOR  Title	(e) and any legal equivalent thereof in a	a foreign country, including the right to clam priority
ASSIGNOR further covenants that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said invention and said Letters Patent and legal equivalents as may be known and accessible to ASSIGNOR and will testify as to the same in any interference, litigation or proceeding related thereto and will promptly execute and deliver to ASSIGNEE or its legal representatives any and all papers. Instruments or affidavits required to apply for, obtain, maintain, issue and enforce said application, said invention and said Letters Patent and said equivalents thereof which may be necessary or desirable to carry out the purposes thereof.  IN WITNESS WHEREOF, I / We have signed this	continuation, division, renewal, or substitute, the	·
pertinent facts and documents relating to said invention and said Letters Patent and legal equivalents as may be known and accessible to ASSIGNOR and will testify as to the same in any interference, litigation or proceeding related thereto and will promptly execute and deliver to ASSIGNEE or its legal representatives any and all papers, instruments or affidavits required to apply for, obtain, maintain, issue and enforce said application, said invention and said Letters Patent and said equivalents thereof which may be necessary or desirable to carry out the purposes thereof.  IN WITNESS WHEREOF, I / We have signed this    Jan 30 000		
WARNING Date of signing must be the same as the date of execution of the application if item (a) was checked above.  Signature of ASSIGNOR is a legal entity complete the following information  Type or print the name of the above person authorized to sign or behalf of ASSIGNOR  Title	pertinent facts and documents relating to said may be known and accessible to ASSIGNOR an proceeding related thereto and will promptly example any and all papers, instruments or affidavits recapplication, said invention, and said Letters Paper desirable to carry out the purposes thereof.  IN WITNESS WHEREOF, 1 / We have signed to	invention and said Letters Patent and legal equivalents as and will testify as to the same in any interference, litigation or ecute and deliver to ASSIGNEE or its legal representatives quired to apply for, obtain, maintain, issue and enforce said atent and said equivalents thereof which may be necessary this
signature of Assignor(s)  The Assignor of the above person authorized to sign or behalf of Assignor  Title		
Type or print the name of the above person authorized to sign or behalf of ASSIGNOR  Title	VVAINTUO Date of signing must be the same as the da	Signature of ASSIGNOIR(S)
behalf of ASSIGNOR  Title	If ASSIGNOR is a legal entity complete the following	ng information
		Type or print the name of the above person authorized to sign on behalf of ASSIGNOR
		Title
Note No witnessing, notarization or legalization is necessary, if the assignment is notarized or legalized then it will only be prima facie evidence (35 USC	Note No witnessing, notarization or legalization is necessary	

and which is found in

**RECORDED: 03/17/2000** 

PATENT REEL: 010688 FRAME: 0966

\_\_Notarization of Legalization Page Added.