F ORM PTO~1595	RECOR	∩4.	-10-2003	U.S. DEPT. OF C	OMMERO	Œ
Office				ratent and 1rac	исппагк	
	P					
'S01-1681			2415738			
To the Honorable Commissioner	·····	case I	ecord the attached original c			
1. Name of conveying party(ies	;): 4-8.	7)3	2. Name and address of	receiving party(ies)		
CHUN CHIEH LIN, YEE-CH	/ V IIA VEO CHIEN-CH	6	Name: Taiwan Semio	sanduatar Manufa	otuvina	
HUANG, CHAO-HSIUNG W		AO	Company	Conductor Manura	cturing	
CHANG, CHENMING HU, F	U-LIANG YANG		"			
1497	Contraction In The		Internal Address:			
i.dditional name(s) or conveying party	(lies) attached? X Yes	∐ No				
			Street Address:			
3. Nature of conveyance	7		121 Park Ave. 3			
Assignment	Merger		Science-Based Indus City: Hsin-Chu	strial Park Zip:		
Canusity Assument	Change of Name		Country: Taiwan, F	•		
Security Agreement	Change of Name					
other lequely to (orect Recordation	u_				
CAN : 013236	Francic/21					
Execution Date: _			Additional name(s) & add	iress(es) attached?	Yes	x
			No			
4. Application number(s) or pa	tent number(s):					
If this document is being file	ed together with a new a	pplication	, the execution date of th	e application is:		
A. Patent Application No(s	<u>s)</u>		B. Patent No	.(s) =		
10/228,545				ji dini Wanazaria Wanazaria		
				S. A.	do .	
		l		<u> </u>	* (,) or .	
	Additional numbers					(-)
5. Name and address of party t	-	ce _	6. Total no. of applicatio	ns and patents in	lved <u>:: 1</u>	
concerning document should Name: GEORGE O. SA						
Internal Address:		-	7. Total fee (37 CFR 3.4	11): \$ <u>40.00</u>		
			Enclosed			
C	S ANTENDE					
Street Address: 28 DAVIS	AVENUE		X Authorized to b	e charged to deposi	t acct.	
City: POUGHKEEPSIE	State: NY ZIP: 12603	<u> </u>	8 .Deposit account num	ber: 19-0033		
			(Attach duplicate copy of th		posit acco	ount)
	DO NOT	USE TH	IIS SPACE			
9. Statement and signature. To the best of my knowledge	e and belief the foregoing	a informat	tion is true and correct an	d any attached con	vis a true	CODY
of the original document		,oa		a arry attaoriou oup	, 10 a a a	Jopy
CTEDITEM D AC	YEDMAN	X	1	4/3/03		
STEPHEN B. AC Name of Person Sig		0.	Signature			-
	.0228545		Č			
	/					
8021 40.00 CH	/					
		12		PATENT		

REEL: 013928 FRAME: 0553

		· · · · · · · · · · · · · · · · · · ·
ADDITIONAL INVENTORS:		
SHIH-CHANG CHEN, MONG SONG LIANG, LIANG-GI YAO		

7>-1595 RECO	U.S. DEPT. OF COMMERCE Patent and Trademark
fice	
501-1681	
To the Honorable Commissioner of Patents	nal documents or copy thereof.
1. Name of conveying party(ies): $\{-27-0\}$	2. Name and address of receiving party(ies):
CHUN CHICH LIN, YEE-CHIA YEO, CHIEN-CHAO HUANG, CHAO-HSIUNG WANG, TIEN-CHIH	Name: <u>Taiwan Semiconductor Manufacturing</u> <u>Company</u>
CHANG, CHENMING HU, FU-LIANG YANG,	
Iditional name(s) or conveying party(ies) attached? X Yes No	Internal Address:
	Street Address:
3. Nature of conveyance X Assignment Merger	121 Park Ave. 3 Science-Based Industrial Park
Security Agreement Change of Name	City: Hsin-Chu Zip: 5 Country: Taiwan, R.O.C.
other	
Execution Date: <u>3/6/02</u>	Additional name(s) & address(es) attached? Yes X No
A A 11 A	
4. Application number(s) or patent number(s):	2 Prim
(0)	2 8545
If this document is being filed together with a new application	n, the execution date of the application is: 3/6/02
(0)	A
If this document is being filed together with a new application	n, the execution date of the application is: 3/6/02
If this document is being filed together with a new application	n, the execution date of the application is: 3/6/02
If this document is being filed together with a new application	n, the execution date of the application is: 3/6/02
If this document is being filed together with a new application	n, the execution date of the application is: 3/6/02 B. Patent No.(s)
If this document is being filed together with a new application A. Patent Application No(s)	n, the execution date of the application is: 3/6/02 B. Patent No.(s) d? Yes X No
If this document is being filed together with a new application A. Patent Application No(s) Additional numbers attached	n, the execution date of the application is: 3/6/02 B. Patent No.(s)
If this document is being filed together with a new application A. Patent Application No(s) Additional numbers attache 5. Name and address of party to whom correspondence	n, the execution date of the application is: 3/6/02 B. Patent No.(s) d? Yes X No
If this document is being filed together with a new application A. Patent Application No(s) Additional numbers attache 5. Name and address of party to whom correspondence concerning document should be mailed:	n, the execution date of the application is: 3/6/02 B. Patent No.(s) d? Yes X No
If this document is being filed together with a new application A. Patent Application No(s) Additional numbers attache 5. Name and address of party to whom correspondence concerning document should be mailed: Name: GEORGE O. SAILE	n, the execution date of the application is: 3/6/02 B. Patent No.(s) d? Yes X No 6. Total no. of applications and patents involved:: 1
Additional numbers attache 5. Name and address of party to whom correspondence concerning document should be mailed: Name: GEORGE O. SAILE Internal Address:	d? Yes X No 6. Total no. of applications and patents involved:: 1 7. Total fee (37 CFR 3.41): \$ 40.00
Additional numbers attache 5. Name and address of party to whom correspondence concerning document should be mailed: Name: GEORGE O. SAILE Internal Address:	n, the execution date of the application is: 3/6/02 B. Patent No.(s) d? Yes X No 6. Total no. of applications and patents involved:: 1 7. Total fee (37 CFR 3.41): \$ 40.00 Enclosed X Authorized to be charged to deposit acct. 8 Deposit account number: 19-0033
Additional numbers attache 5. Name and address of party to whom correspondence concerning document should be mailed: Name: GEORGE O. SAILE Internal Address:	n, the execution date of the application is: 3/6/02 B. Patent No.(s) d? Yes X No 6. Total no. of applications and patents involved:: 1 7. Total fee (37 CFR 3.41): \$40.00 Enclosed X Authorized to be charged to deposit acct. 8 .Deposit account number: 19-0033 (Attach duplicate copy of this page if paying by deposit account
If this document is being filed together with a new application A. Patent Application No(s) Additional numbers attache 5. Name and address of party to whom correspondence concerning document should be mailed: Name: GEORGE O. SAILE Internal Address: Street Address: 20 MCINTOSH DRIVE City: POUGHKEEPSIE State: NY ZIP: 12603	n, the execution date of the application is: 3/6/02 B. Patent No.(s) d? Yes X No 6. Total no. of applications and patents involved:: 1 7. Total fee (37 CFR 3.41): \$40.00 Enclosed X Authorized to be charged to deposit acct. 8 .Deposit account number: 19-0033 (Attach duplicate copy of this page if paying by deposit account
Additional numbers attache 5. Name and address of party to whom correspondence concerning document should be mailed: Name: GEORGE O. SAILE Internal Address: Street Address: 20 MCINTOSH DRIVE City: POUGHKEEPSIE State: NY ZIP: 12603 DO NOT USE TO	n, the execution date of the application is: 3/6/02 B. Patent No.(s) d? Yes X No 6. Total no. of applications and patents involved:: 1 7. Total fee (37 CFR 3.41): \$40.00 Enclosed X Authorized to be charged to deposit acct. 8 .Deposit account number: 19-0033 (Attach duplicate copy of this page if paying by deposit account
If this document is being filed together with a new application A. Patent Application No(s) Additional numbers attache 5. Name and address of party to whom correspondence concerning document should be mailed: Name: GEORGE O. SAILE Internal Address: Street Address: 20 MCINTOSH DRIVE City: POUGHKEEPSIE State: NY ZIP: 12603	m, the execution date of the application is: 3/6/02 B. Patent No.(s) d? Yes X No 6. Total no. of applications and patents involved:: 1 7. Total fee (37 CFR 3.41): \$ 40.00 Enclosed X Authorized to be charged to deposit acct. 8. Deposit account number: 19-0033 (Attach duplicate copy of this page if paying by deposit account HIS SPACE
Additional numbers attache A. Patent Application No(s) Additional numbers attache 5. Name and address of party to whom correspondence concerning document should be mailed: Name: GEORGE O. SAILE Internal Address: Street Address: 20 MCINTOSH DRIVE City: POUGHKEEPSIE State: NY ZIP: 12603 DO NOT USE TO the best of my knowledge and belief the foregoing information of the original document STEPHEN B. ACKERMAN	n, the execution date of the application is: 3/6/02 B. Patent No.(s) d? Yes X No 6. Total no. of applications and patents involved:: 1 7. Total fee (37 CFR 3.41): \$ 40.00 Enclosed X Authorized to be charged to deposit acct. 8. Deposit account number: 19-0033 (Attach duplicate copy of this page if paying by deposit account) HIS SPACE
Additional numbers attache 5. Name and address of party to whom correspondence concerning document should be mailed: Name: GEORGE O. SAILE Internal Address: Street Address:	n, the execution date of the application is: 3/6/02 B. Patent No.(s) d? Yes X No 6. Total no. of applications and patents involved:: 1 7. Total fee (37 CFR 3.41): \$40.00 Enclosed X Authorized to be charged to deposit acct. 8 .Deposit account number: 19-0033 (Attach duplicate copy of this page if paying by deposit account) HIS SPACE

ADDITIONAL NAMES OF INVENTORS:

Shih-Chang Chen, Mong Song Liang, Liang-Gi Yao

	For X U.S. and/or X Foreign Rights	
TS01-1681	For X Application or U.S. Patent	
	By X Inventor(s) or Present Owner	
ASSIGNMENT	r of envention	
receipt of which is hereby acknowledged, and	E to ASSIGNOR of the sum of One Dollar (\$1.00), the differential translation.	
ASSIGNOR:		
CHUN-CHISH LIN	YEE-CHIA YEO Type or print name of Assignor	
3 FL., No 32, Lane 284, Shiany Shan	980 OHLONE AVE #985	
N. Rd , Shi Chiu, Taichung, Taiwa	ALBANY CA 94706, U.S.A.	
R.O.C. Respublic of China.	SINGAPORE	
Nationality Taiwan	Nationality	
CHIEN-CHAO HUANG Type of print name of ASSIGNOR	CHAO-HSIUNG WANG Type of print name of ASSIGNOR	
Clien-Cham 1-1-	Chaldry War	
67-1, No. 32, Cane 476, Knung-Fy RD	SE-1 16 39 Clark Pd Code of the of	
Sector Taiwan. Roc, Republic Nationality of China	Januar ROC Republic of China Nationality	
ASSIGNEE:		
Taiwan Semiconductor Manufacturing C 121 Park Ave. 3 Science-Based Industrial Park Hsin-Chu, Taiwan, R.O.C. Taiwan, R.O.C.	co. Ltd.	
and the successors, assigns and legal repre	esentatives of the ASSIGNEE	
(complete	e one of the following)	
x the entire right, title and interest		
an undivided percent (%) interest for the United States and its territorial possessions (check the following box/f foreign rights are also to be assigned)		
x and in all foreign countries		
in and to any and all improvements which ar	re disclosed in the invention entitled:	
A Relaxed Silicon Germanium Substr	ate With Low Defect Density	

For X Application or U.S. Patent
By X Inventor(s) or Present Owner
OF INVENTION
E to ASSIGNOR of the sum of One Dollar (\$1.00), the for other good and valuable consideration,
Shin-Chang Shin-Chang Type or print name old SSIGNOR Shih-Chang Ohen
3-5, Lane 41, Sec. 1, Chung-Kong Rd, Taoyuan Taiwa
Republic of China, Tawan
Type or print name of ASSIGNOR U
No 6, Atley 1, Loure 158, Changehum Strut Hinchu Republic of China Jacuten, Taiwan
· · · · · · · · · · · · · · · · · · ·
o. Ltd.
sentatives of the ASSIGNEE
one of the following)
interest for the United States and its territorial possessions gn rights are also to be assigned)
e disclosed in the invention entitled:
te With Low Defect Density

7F-3,

	For x U.S. and/or x Foreign Rights	
TS01-1681	For X Application or U.S. Patent	
	By x inventor(s) or Present Owner	
ASSIGNMENT OF INVENTION		
In consideration of the payment by ASSIGNE receipt of which is hereby acknowledged, and	E to ASSIGNOR of the sum of One Dollar (\$1.00), the dorrother good and valuable consideration,	
ASSIGNOR:		
TIEN-CHIH CHANG Type of print name of ASSIGNOR	CHENMING HU 1 ype or print name of ASSIGNOR	
3FL., No. >6, Lane 295, Duen-hum	2060 Pebble Drive, Alamo, (A, 94507) Address	
South Road, Section 1, Taipei, Taiwan, 106.	/ Wall Coo	
Republic of China Tuwan	U.S. A.	
ASSIGNEE: Taiwan Semiconductor Manufacturing Co. Ltd. 121 Park Ave. 3 Science-Based Industrial Park		
Hsin-Chu, Talwan, R.O.C. Talwan, R.O.C. Nationality		
and the successors, assigns and legal representatives of the ASSIGNEE		
· · · · · · · · · · · · · · · · · · ·	one of the following)	
	interest for the United States and its territorial possessions on rights are also to be assigned)	
in and to any and all improvements which are		
A Relaxed Silicon Germanium Sulosti	ate with Law Defect Density	

(a) X U.S. patent application executed on
(b) U.S. patent application executed on filed on U.S. application serial no
(d) U.S. patent no
(d) U.S. patent no
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 WARNING Date of signing must be the same as the date of execution of the application if item (a) was checked above.
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, LIWe have signed this WARNING Date of signing must be the same as the date of execution of the application if item (a) was checked above.
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 WARNING Date of signing must be the same as the date of execution of the application if item (a) was checked above.
ASSIGNOR further coverants 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 Chate of signing (Date of signing) (
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
WARNING Date of signing must be the same as the date of execution of the application if item (a) was checked above.
WARNING Date of signing must be the same as the date of execution of the application if item (a) was checked above.
Chun Chieh Lin. Signature of Assignories; Tien-Chih Chang. Lz/L.
Tion-Chil Chang.
log/hu
to the
· Chuldhans
If ASSIGNOR is a legal entity complete the following information
Type or print the name of the above person authorized to sign on behalf of ASSIGNOR
Title Note: No witnessing, nocurization or legalization is necessary, if the assignment is notarized or legalized then it will only be prima facia evidence (35 USC).

261). Use new page if noturination is detared.

PATENT REEL: 013928 FRAME: 0560

......Notarization of Lagalization Page Added.

and which is found in	
(a) X U.S. patent application executed on even of	date herewith
(b) U.S. patent application executed on	
(c) U.S. application serial no.	filed on
(d) U.S. patent no.	issued
(also check (e) if for	eign application(s) is also being assigned)
(e) and any legal equivalent thereof in a foreig	n country, including the right to clam priority
and, in and to, all Letters Patent to be obtained fi continuation, division, renewal, or substitute, thereof, an thereof.	
ASSIGNOR hereby covenants that no assignment be made or entered into which would conflict with this	nt, sale, agreement or encumbrance has been or will assignment.
ASSIGNOR further covenants that ASSIGNEE pertinent facts and documents relating to said inventionary be known and accessible to ASSIGNOR and will to proceeding related thereto and will promptly execute any and all papers, instruments or affidavits required application, said invention, and said Letters Patent a or desirable to carry out the purposes thereof.	estify as to the same in any interference, litigation or and deliver to ASSIGNEE or its legal representatives to apply for, obtain, maintain, issue and enforce said
IN WITNESS WHEREOF, I / We have signed this	
WARNING Date of signing must be the same as the date of exe	
	Signature of Assistantias The Start Chang Change Start Change Cha
If ASSIGNOR is a legal entity complete the following infor	rmation
	Type or print the nume of the above person authorized to sign on behalf of ASSIGNOR
Note: No witnessing, polarization or ligalization is necessity, if the as	Title Signment is nownzed or legalized then it will only be prime ficial evidence (35 USC

261). Usu one page of notarization is desired.

__Notarization of Legalization Page Added.

and which is found in	•
(a) x U.S. patent application executed on eve	en date herewith
(b) U.S. patent application executed on	
	filed on
∮	issued
(also check (e) if	foreign application(s) is also being assigned)
(e) and any legal equivalent thereof in a for	reign country, including the right to clam priority
	d for said invention by the above application or any and as to letters patent any re-issue or re-examination
ASSIGNOR hereby covenants that no assignment of the made or entered into which would conflict with the made or entered into which would conflict with the made of	ment, sale, agreement or encumbrance has been or will this assignment.
pertinent facts and documents relating to said invertible may be known and accessible to ASSIGNOR and will promptly executed any and all papers, instruments or affidavits require	te of signing)
	Yeshin Yes.
If ASSIGNOR is a legal entity complete the following in	iformation
	Type or print the name of the above person authorized to sign on behalf of ASSIGNOR
	Title

Note: No witnessing, notarization or logalization is accessary, if the assignment is notarized or legalized then it will only be prima facto evidence (35 USC

Mourisation of Logalization Page Added.

RECORDED: 04/08/2003

261). Use need page if nourisation is desired.