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FORM PTO-1595 (Modified)

02-13-2001



t No.: BUR920000107US1(13790)

U.S. DEPARTMENT OF COMMERCE Patent and Titalena

, ab Solutings — —	U.S. DEPARTMENT OF COMMERCE Patent and Tradema Tice 01612421
To the Honorable Commissioner of Patents and Trademarks: 1. Name of conveying party(ies): 1. Jack Oon Chu, 2. Douglas Duane Coolbaugh, 3. James Stuart Dunn, 4. David R. Greenberg, 5. David L. Harame, 6. Basanth Jagannathan, 7. Robb Allen Johnson, 8. Louis D. Lanzerotti, Additional names(s) of conveying party(ies) attached?	Please record the attached original documents or control of the co
3. Nature of conveyance: ■ Assignment	City: Armonk State/Prov.: New York Country: U.S.A. ZIP: 10504
	174\26 1/29/01, 12/18/00, 12/21/00, the execution date of the application is:12/20/00, 12/20,00, 12/20/00, 1/16/01, 1/29/01, 12/20,00, B. Patent No.(s)
Additional numbers att	ached? 🔲 Yes 🗷 No
Name and address of party to whom correspondence concerning document should be mailed:	Total number of applications and patents involved:
Name: Richard L. Catania Registration No. 32,608 Address: Scully, Scott, Murphy & Presser	7. Total fee (37 CFR 3.41):\$ 40.00 □ Enclosed - Any excess or insufficiency should be credited or debited to deposit account
400 Garden City Plaza (516)742-4343 City: Garden City State/Prov.: New York Country: U.S.A. ZIP: 11530	Authorized to be charged to deposit account 8. Deposit account number: 09-0456/IBM
9. Statement and signature. To the best of my knowledge and belief, the foregoing information of the original document. William D. Sabo, Reg. No. 27,465 Name of Person Signing	ation is true and correct and any attached copy is a true copy Lol Lo Lolle Signature Signature Date Date

PATENT

REEL: 011510 FRAME: 0647

RECORDATION FORM COVER SHEET (Continued) Docket No.: BUR920000107US1(13790)

- Name of conveying party(ies):
 Katheryn Turner Schonenberg
 Ryan Wayne Wuthrich

PATENT REEL: 011510 FRAME: 0648 Express Mail EK602286510US

(IBM Docket No.: BUR920000107US1) (SSM&P Docket No. 13790)

ASSIGNMENT

Whereas, we

Inventor (1) Jack Oon Chu and City County of Nassau	
and	(2) Douglas Duane Coolbaugh County of Chittenden

(3) James Stuart Dunn **County of Chittenden**

(4) David R. Greenberg and County of Westchester

and (5) David L. Harame County of Chittenden

and

and (6) Basanth Jagannathan County of Dutchess

and (7) Robb Allen Johnson County Chittenden

(8) Louis D. Lanzerotti and **County of Chittenden**

and (9) Katheryn Turner Schonenberg County of Fairfield

(10) Ryan Wayne Wuthrich and County of Chittenden

City of Manhasset Hills and State of New York

City of Essex Junction and State of Vermont

City of Jericho and State of Vermont

City of White Plains and State of New York

City of Essex Junction and State of Vermont city of Stormidle B.S.

City of Fishkill and State of New York

City of South Burlington and State of Vermont

City of Burlington and State of Vermont

City of New Fairfield and State of Connecticut

City of Burlington and State of Vermont

have invented certain improvements in

INCORPORATION OF CARBON IN SILICON/SILICON GERMANIUM EPITAXIAL LAYER TO ENHANCE YIELD FOR SI-Ge BIPOLAR TECHNOLOGY

Dates That Inventors Signed the Declaration

Title

and have executed, respectively, a United States patent application therefor on

2001 1/29 2000, and (2) 12/18 (1) 2000, and (4) 12/20 (3) /2 2000, and (6) 12/20 (5) 01/25 12000, and (8) 2/29/01 (7) 1/16/2001 (9) /2/20 2000, and (10) /2/21/00

2000, and 2000, and 2000, and 2000.

2000, and

Whereas, INTERNATIONAL BUSINESS MACHINES CORPORATION, a corporation of New York, having a place of business at Armonk, New York 10504, (hereinafter called IBM), desires to acquire the entire right, title and interest in the said application and invention, and to any United States and foreign patents to be obtained therefor;

Now therefore, for a valuable consideration, receipt whereof is hereby acknowledged, we the above named hereby sell, assign, and transfer to IBM, its successors and assigns, the entire right, title and interest in the said application and invention therein disclosed for the United States and foreign countries, and all rights of priority resulting from the filing of said United States application, and we request the Commissioner of Patents to issue any Letters Patent granted upon the invention set forth in said application to IBM, its successors and assigns; and we hereby agree that IBM may apply for foreign Letters Patent on said invention and we will execute all papers necessary in connection with the United States and foreign applications when called upon to do so by IBM.

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PATENT REEL: 011510 FRAME: 0649

ASSIGNMENT (Continued)

TITLE:

INCORPORATION OF CARBON IN SILICON/SILICON GERMANIUM EPITAXIAL LAYER TO ENHANCE YIELD FOR SI-Ge BIPOLAR TECHNOLOGY

City	(1) Signed at York town,	N.Y.		P	
Date	(1) Signed at York-town, on 1-29-2001	(Jack) First/Name	O. Middle Initial	Chu Last Name	signature) inventor
City	(2) Signed at	l,			
•	, · · -		, -		
Date	<u>on</u>	(Douglas) First Name	D. Middle Initial	Coolbaugi List Name	signature n) Inventor
City	(3) Signed at				
Date	on	(James First Name	S. Middle Initial	Dunn Last Name	signature) inventor
City	(4) Signed at				
Date	on	(David First Name	R. Middle Inklat	Greenberg Last Name	signature) inventor
City	(δ) S1gned at				
Date	on	(David First Name	L Middle Initial	Harame Last Namo	signature) inventor
City	(6) Signed at				
Date	on	(Basanth First Name	Middle Inklat	Jagannath Last Name	signature an) inventor
City	(7) Signed at				
)ate	on	(Robb First Name	A. Middle Initial	Johnson Lest Name	_ signature) Inventor
ity	(8) Signed at				
Date	on	(Louis First Name	D. Middle Initial	Lanzerotti Last Name	Signature) inventor

2

REEL: 011510 FRAME: 0650

ASSIGNMENT (Continued)

TITLE:

INCORPORATION OF CARBON IN SILICON/SILICON GERMANIUM EPITAXIAL LAYER TO ENHANCE YIELD FOR SI-Ge BIPOLAR TECHNOLOGY

City	(1) Signed at				
Date	on	(Jack First Name	O. Middle Initial	Chu Last Name	signature) inventor
City	(2) Signed at 5584 Junefin	00	0 1		
Date	on 12/18/00	(Douglas First Name	D. Middle Initial	Coolbaugi Last Name	signature) inventor
City	(3) Signed at ESSEX JUNCTION		4		
Date	on 12/21/00	(Jámes First Name	S. Middle Initial	Dunn Last Name	signature) inventor
City	(4) Signed at	/			
Pate	on	(David First Name	R. Middle Initial	Greenberg Last Name	signature) inventor
ity	(5) Signed at ESSEK JUNCTIN COLUMN T	700)		
ate	January 25, 2001	(David First Name	L. Middle Initial	Harame Last Name	signature) inventor
ity	(6) Signed at				
ate	on	(Basanth First Name	Middle Initial	Jagannath Last Name	_ signature nan) invento
ity	(7) Signed at ESSEX JUNCTION, YT	-			
ate	on $1/ \psi /2\infty$	(Robb First Name	A. Middle Initial	Johnson Last Name	_ signature) invento
ity	(8) Signed at Essex Junching U				
ate	on 1129 (01	(Louis First Name	D. Middle Initial	Lanzerotti Last Name	signature) inventor

ASSIGNMENT (Continued)

TITLE:

INCORPORATION OF CARBON IN SILICON/SILICON GERMANIUM EPITAXIAL LAYER TO ENHANCE YIELD FOR SI-GO BIPOLAR TECHNOLOGY

	-				
City	(1) Signed at				
Date	on	(Jack First Name	O. Middle Initial	Chu Last Name	signature) inventor
City	(2) Signed at ESSEL Junch on	00	0 1	11 0	
Date	on 12/18/00	(Douglat: First Name	D. Middle Initial	Coolbaugh Last Name	signature i) inventor
City	(3) Signed at				
Date	on	(James First-Name	S. Middle Initial	Dunn Last Name	signature) inventor
City	(4) Signed at East Fish 16/1	$()_{\alpha}$	A		
Date	on 12/20/2000	(David First Name	R. Middle Initial	Greenberg Last Name	signature) Inventor
Sity	(5) Signed at				
Date	on	(David First Name	L. Middle Initial	Harame Last Name	signature) inventor
City	(6) Signed at East Fishki'll	0		Tara	4.
Date	on $12(20/2000)$	Basanth (Basanth First Name	Middle initial	Jagannath Last Name	signature an) inventor
ity	(7) Signed at	, 110, 1741116	Wilder III		
Date	on	(Robb First Name	A. Middle Initial	Johnson Last Name	_ signature) Inventor
ity	(8) Signed at				
Date	on	(Louis	D.	Lanzerotti	signature) inventor

ASSIGNMENT (Continued)

INCORPORATION OF CARBON IN SILICON/SILICON GERMANIUM EPITAXIAL TITLE: LAYER TO ENHANCE YIELD FOR SI-GO BIPOLAR TECHNOLOGY

City

(9) Signed at East Fishkill

Date

12/20/2000

First Name

Middle initial

Schonenberg) inventor

Last Name

City

(10) Signed at

Date

on

(Ryan First Name

W. Middle Initial

Wuthrich Last Name

signature) inventor

REEL: 011510 FRAME: 0653

ASSIGNMENT (Continued)

TITLE: INCORPORATION OF CARBON IN SILICON/SILICON GERMANIUM EPITAXIAL.

LAYER TO ENHANCE YIELD FOR Si-Ge BIPOLAR TECHNOLOGY

City (9) Signed at

Date on signature (Katheryn T. Schonenberg) inventor

First Name Middle Initial Last Name

City (10) Signed at ESSEX JUNCTICAL, ESSE

Date on 2/21/00 (Ryan W. Wuthrich) inventor First Name Middle Initial Last Name

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PATENT REEL: 011510 FRAME: 0654