504682373 12/12/2017

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4729095

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date		
CHIA-TA YU	03/31/2017		
SHENG-CHEN WANG	03/31/2017		
CHENG-YU YANG	04/06/2017		
KAI-HSUAN LEE	03/31/2017		
SAI-HOOI YEONG	03/31/2017		
FENG-CHENG YANG	04/10/2017		
YEN-MING CHEN	04/07/2017		

RECEIVING PARTY DATA

Name:	TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD.		
Street Address:	NO. 8, LI-HSIN ROAD 6		
Internal Address:	HSINCHU SCIENCE PARK		
City:	HSINCHU		
State/Country:	TAIWAN		
Postal Code:	300-78		

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15838451

CORRESPONDENCE DATA

Fax Number:

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 214-651-5000

Email: ipdocketing@haynesboone.com

Correspondent Name: HAYNES AND BOONE, LLP IP SECTION

Address Line 1: 2323 VICTORY AVENUE

Address Line 2: SUITE 700

Address Line 4: DALLAS, TEXAS 75219

ATTORNEY DOCKET NUMBER:	2016-0779/24061.3466US02	
NAME OF SUBMITTER:	JANINE OLINARES	
SIGNATURE:	/Janine Olinares/	

504682373 REEL: 044362 FRAME: 0842

DATE SIGNED:	12/12/2017
Total Attachments: 3	
source=ASSN#page1.tif	
source=ASSN#page2.tif	
source=ASSN#page3.tif	

PATENT REEL: 044362 FRAME: 0843 Docket NoDocket No.: P20160779US00/24061.3466US01

Customer No.: 42717

ASSIGNMENT

WHEREAS, we,

(1)	Chia-Ta Yu	of	Taipei City, Taiwan, Republic of China
(2)	Sheng-Chen Wang	of	Hsinchu City, Taiwan, Republic of China
(3)	Cheng-Yu Yang	of	Changhua County, Taiwan, Republic of China
(4)	Kai-Hsuan Lee	of	Hsinchu City, Taiwan, Republic of China
(5)	Sai-Hooi Yeong	of	Hsinchu County, Taiwan, Republic of China
(6)	Feng-Cheng Yang	of	Hsinchu County, Taiwan, Republic of China
(7)	Yen-Ming Chen	of	Hsinchu County, Taiwan, Republic of China

have invented certain improvements in

FINFET DEVICE WITH EPITAXIAL STRUCTURES THAT WRAP AROUND THE FINS AND THE METHOD OF FABRICATING THE SAME

for which we have executed an application for Letters Patent of the United States of America,

X	of even date f	iled herewith; and	
THE CONTRACTOR OF THE CONTRACT	filed on	and assigned application number	; and

WHEREAS, we authorize the attorney of record to update this document to include Patent Office information as deemed necessary (i.e., filing date, serial number, etc.);

WHEREAS, Taiwan Semiconductor Manufacturing Co., Ltd., ("TSMC"), No. 8, Li-Hsin Rd. 6, Hsinchu Science Park Hsinchu, Taiwan 300-78, Republic of China is desirous of obtaining the entire right, title, and interest in, to and under the said invention and the said application in the United States of America and in any and all countries foreign thereto;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and other good and valuable consideration, we have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said TSMC, its successors, legal representatives, and assigns, the entire right, title, and interest in, to and under the said invention, and the said application, and all divisional, renewal, substitutional, and continuing applications thereof, and all Letters Patent of the United States of America which may be granted thereon and all reissues and extensions thereof, and all applications for Letters Patent which may be filed for said invention in any country or countries foreign to the United States of America, and all extensions, renewals, and reissues thereof, and all prior patents and patent applications from which a filing priority of the above-described patent application may be obtained, including the right to collect past damages; and we hereby authorize and request the Commissioner of Patents of the United States of America, whose duty it is to issue patents on applications as aforesaid, to issue all Letters Patent for said invention to the

PATENT REEL: 044362 FRAME: 0844 Docket NoDocket No.: P20160779US00/24061.3466US01

Customer No.: 42717

said TSMC, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND WE HEREBY covenant that we have full right to convey the entire interest herein assigned, and that we have not executed, and will not execute, any agreement in conflict herewith.

AND WE HEREBY further covenant and agree that we will communicate to said TSMC, its successors, legal representatives and assigns, any facts known to us respecting said invention, and testify in any legal proceedings, sign all lawful papers, execute all divisional, renewal, substitutional, continuing, and reissue applications, make all rightful declarations and/or oaths and generally do everything possible to aid the said TSMC, its successors, legal representatives and assigns, to obtain and enforce proper patent protection for said invention in all countries.

Inventor	Name:
THACHER	T A ETET TO

Chia-Ta Yu

Residence Address:

No. 8, Li-Hsin Rd. 6

Science-Based Industrial Park Hsin-Chu, 300-77, Taiwan (R.O.C.)

Dated:	20	1).	٥3.	\geq	Į	
--------	----	-----	-----	--------	---	--

Chia - Ta Ty
Inventor Signature

Inventor Name:

Sheng-Chen Wang

Residence Address:

4F, No.12, Ln. 185, Xinzhuang St., East Dist.

Hsinchu City 300, Taiwan (R.O.C.)

Dated: >0(7,3,3)

Shing Clen Wany Inventor Signature

Inventor Name:

Cheng-Yu Yang

Residence Address:

No.44, Dafa Rd., Xihu Township

Changhua County 514, Taiwan (R.O.C.)

Dated: 20/1, 4-6

Charles Tang Inventor Signature

-2-

Docket NoDocket No.: P20160779US00/24061.3466US01

Customer No.: 42717

Inventor	3.7
inventor	17 31110
T/1813/ 4 5 11Y	i value.

Kai-Hsuan Lee

Residence Address:

7F., No.55, Ln. 19, Guanxin Rd., East Dist.

Hsinchu City 300, Taiwan (R.O.C.)

Dated: 20/7/3/3/

Hai Heum See

Inventor Signature

Inventor Name:

Sai-Hooi Yeong

Residence Address:

6F.-2, No.128, Sec. 1, Liujia 1st Rd., Zhubei City

Hsinchu County 302, Taiwan (R.O.C.)

Dated: 3 1 3

2017

Inventor Signature

Inventor Name:

Feng-Cheng Yang

Residence Address:

No.7, Aly. 8, Ln. 315, Xuefu E. Rd., Zhudong Township

Hsinchu County 310, Taiwan (R.O.C.)

Dated:

10/4/2017

Teng Chang Jung Inventor Signature

Inventor Name:

Yen-Ming Chen

Residence Address:

6F, No.33, Sheng-Li 5th Rd., Chu-Pei City

Hsinchu County, Taiwan, (R.O.C.)

Dated:

4/1111

Top Cher Inventor Signature

16116450_1

- 3 -

PATENT REEL: 044362 FRAME: 0846