505707749 10/04/2019

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date	
CHIH-FAN HUANG	10/12/2017	
CHIH-YANG PAI	10/12/2017	
YUAN-YANG HSIAO	10/12/2017	
TSUNG-CHIEH HSIAO	10/12/2017	
HUI-CHI CHEN	10/12/2017	
DIAN-HAU CHEN	10/12/2017	
YEN-MING CHEN	10/12/2017	

RECEIVING PARTY DATA

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

PROPERTY NUMBERS Total: 1

Property Type	Number	
Application Number:	16593078	

CORRESPONDENCE DATA

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ATTORNEY DOCKET NUMBER:	252011-6931
NAME OF SUBMITTER:	DANIEL R. MCCLURE
SIGNATURE:	/Daniel R. McClure/
DATE SIGNED:	10/04/2019

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PATENT REEL: 050625 FRAME: 0924

ASSIGNMENT

WHEREAS, Chih-Fan HUANG, Chih-Yang PAI, Yuan-Yang HSIAO, Tsung-Chieh HSIAO, Hui-Chi CHEN, Dian-Hau CHEN, and Yen-Ming CHEN

hereafter referred to as ASSIGNOR, has/have invented certain new and useful improvements as described and set forth in the below identified application for United States Letters Patent:

little: <u>META</u>	L-INSULATOR-META	<u>AL (MIM) CAPACI</u>	<u>TOR</u>	STRUC	<u>JTURE AN</u>	IM UN	ETHOD
FOR FORM	UNG THE SAME						
Filed:		Serial No.					
Executed on:							
WHEREAS	Taiwan Semiconductor	Manufacturing Co.	I td	of No	8 Li_Hein	DA 6	. Usinch

WHEREAS, <u>Taiwan Semiconductor Manufacturing Co., Ltd.</u>, of <u>No. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu 300-78, Taiwan R.O.C.</u>, hereinafter referred to as ASSIGNEE, is desirous of acquiring ASSIGNOR'S interest in the said invention and application and in any U.S. Letters Patent which may be granted on the same;

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN: Be it known that, for good and valuable consideration, receipt of which is hereby acknowledged by Assignor, Assignor has/have sold, assigned and transferred, and by these presents does/do sell, assign and transfer unto the said Assignee, and Assignee's successors and assigns, all his/her/their rights, title and interest in and to the said invention and application and all future improvements thereon, and in and to any Letters Patent which may hereafter be granted on the same in the United States, the said interest to be held and enjoyed by said Assignee as fully and exclusively as it would have been held and enjoyed by said Assignor had this Assignment and transfer not been made, to the full end and term of any Letters Patent which may be granted thereon, or of any division, renewal, continuation in whole or in part, substitution, conversion, reissue, prolongation or extension thereof.

Assignor further agrees/agree that he/she/they will, without charge to said Assignee, but at Assignee's expense, cooperate with Assignee in the prosecution of said application and/or applications, execute, verify, acknowledge and deliver all such further papers, including applications for Letters Patent and for the reissue thereof, and instruments of assignment and transfer thereof, and will perform such other acts as Assignee lawfully may request, to obtain or maintain Letters Patent for said invention and improvement, and to vest title thereto in said Assignee, or Assignee's successors and assigns.

IN TESTIMONY WHEREOF, Assignor has/have signed his/her/their name(s) on the date(s) indicated.

P20171917US00/0503-B32524-US

Page 1 of 2

ASSIGNMENT

70/7-10-12 Date	Name: Chih-Fan HUANG
Date	Name: Chih-Fan HUANG
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2017-10-12	Chih- Yang Paj- Name: Chih-Yang PAI
Date	Name: Chih-Yang MI
2017-10-1Z	Name: Yuan-Yang HSIAO
Date	Name: Yuan-Yang HSIAO
_	
2017-10-12	Tsung - Chieh Hsino Name: Tsung-Chieh HSIAO
Date	Name: Tsung-Chieh HSIAO
70[7/10/1 ² Date	Hut-Chi Chen.
Date	Name: Hui-Chi CHEN
,	ρ
2017/10/12	Name: Dian-Hau CHEN
Date	Name: Dian-Hau CHEN
/	
2017/10/12	Name: Van Ming CHEN
Date	Name: Yen-Ming CHEN

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