

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT5154077

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
TUNG-PO HSIEH	08/03/2018
SU-HAO LIU	08/10/2018
HONG-CHIH LIU	08/03/2018
JING-HUEI HUANG	08/03/2018
JIE-HUANG HUANG	08/03/2018
LUN-KUANG TAN	09/04/2018
HUICHENG CHANG	08/10/2018
LIANG-YIN CHEN	08/13/2018
KUO-JU CHEN	08/10/2018
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD.
<b>Street Address:</b>	NO. 8, LI-HSIN RD. 6, HSINCHU SCIENCE PARK
<b>City:</b>	HSINCHU
<b>State/Country:</b>	TAIWAN
<b>Postal Code:</b>	300-78
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
Application Number:	16021216
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(703)205-8050
<i>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.</i>	
<b>Phone:</b>	7032058000
<b>Email:</b>	Brian.Olive@bskb.com, mailroom@bskb.com
<b>Correspondent Name:</b>	BIRCH STEWART KOLASCH & BIRCH LLP
<b>Address Line 1:</b>	8110 GATEHOUSE ROAD, SUITE 100E
<b>Address Line 4:</b>	FALLS CHURCH, VIRGINIA 22042-0747
<b>ATTORNEY DOCKET NUMBER:</b>	0941-3690PUS2
<b>NAME OF SUBMITTER:</b>	BRIAN OLIVE

<b>SIGNATURE:</b>	/brian olive/
<b>DATE SIGNED:</b>	09/24/2018
<b>Total Attachments: 2</b> source=2018-09-24_Assignment_0941-3690PUS2#page1.tif source=2018-09-24_Assignment_0941-3690PUS2#page2.tif	

**ASSIGNMENT**

WHEREAS, Tung-Po HSIEH, Su-Hao LIU, Hong-Chih LIU, Jing-Huei HUANG, Jie-Huang HUANG, Lun-Kuang TAN, Huicheng CHANG, Liang-Yin CHEN and Kuo-Ju 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:

Title: SEMICONDUCTOR STRUCTURE WITH DOPED VIA PLUG AND METHOD FOR FORMING THE SAME

Filed: June 28, 2018

Serial No. 16/021,216

Executed on: August 3, 2018; August 10, 2018; August 13, 2018; September 4, 2018

WHEREAS, Taiwan Semiconductor Manufacturing Co., Ltd., of No. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu 300-78, Taiwan R.O.C., 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.

# ASSIGNMENT

2018/8/3  
Date  
Tung-Po HSIEH  
Name: Tung-Po HSIEH

2018/8/10  
Date  
Su-Hao LIU  
Name: Su-Hao LIU

2018/8/3  
Date  
Hong-Chih LIU  
Name: Hong-Chih LIU

2018/8/3  
Date  
Jing-Huei HUANG  
Name: Jing-Huei HUANG

2018/8/13  
Date  
Jie-Huang HUANG  
Name: Jie-Huang HUANG

2018/9/4  
Date  
Lun-Kuang TAN  
Name: Lun-Kuang TAN

2018/8/10  
Date  
Huicheng CHANG  
Name: Huicheng CHANG

2018/8/13  
Date  
Liang-Yin CHEN  
Name: Liang-Yin CHEN

2018/8/10  
Date  
Kuo-Ju CHEN  
Name: Kuo-Ju CHEN