506151873 07/14/2020

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT6198605

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
TAI-YUAN WANG	01/12/2017

RECEIVING PARTY DATA

Name:	TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD.
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Internal Address:	SCIENCE-BASED INDUSTRIAL PARK
City:	HSINCHU
State/Country:	TAIWAN
Postal Code:	300

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16927375

CORRESPONDENCE DATA

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ATTORNEY DOCKET NUMBER:	2519-0545PUS1
NAME OF SUBMITTER:	THAO DONG
SIGNATURE:	/Thao Dong/
DATE SIGNED:	07/14/2020

Total Attachments: 2

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PATENT 506151873 REEL: 053200 FRAME: 0234

NP-19729-US/P20160787US00

Appl No.: 16/927,375 Filed: 2020-07-13

Inventor(s)-to-Assignce

ASSIGNMENT

This assignment agreement is applicable to an invention entitled (Invention Title)
SEMICONDUCTOR DEVICE AND METHOD OF FORMING DOPED CHANNEL THEREOF
The PATENT RIGHTS referred to in this agreement are:
(check one) a patent application for this invention, executed by the ASSIGNOR(S)
concurrently with this assignment.
☑U.S. patent application Serial No. 15/378,175 ,filed December 14, 201
a U.S. patent application based on PCT International Application
Nofiled on (date)(U.S. patent application
Serial No, if known).
U.S. patent No, issued
The PATENT RIGHTS also include all divisions, reissues, continuations and extensions of
the patents and patent applications identified above.
The PATENT RIGHTS assigned under this agreement are:
(check one) \(\sum U.S.\) patent rights only.
Worldwide patent rights. In this case, the assignee shall have the right to
claim the benefit of the filing date of any U.S. or foreign patent application
for this invention.
The ASSIGNOR(S) referred to in this agreement is (or are) the inventor(s) whose signatures
appear on page 2 of this Assignment and any Supplemental Sheet(s).
The ASSIGNEE referred to in this agreement is:
(Name of Assignee) TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD.
(Address) NO.8, LI-HSIN RD.6, SCIENCE-BASED INDUSTRIAL PARK, HSINCHU.
<u>TAIWAN 300, R.O.C.</u>
The ASSIGNEE is:
(check one) An individual.
A Partnership.
A Corporation of <u>TAIWAN, R.O.C.</u> (specify state or country)
(other)
The ASSIGNOR(S), in consideration of \$10.00 paid by the ASSIGNEE, and other good and
valuable consideration, receipt of which is acknowledged, hereby assign(s) the following
rights to the ASSIGNEE, its successors and assigns:
the full and exclusive right to the invention;
the entire right, title and interest in and to the PATENT RIGHTS;

the right to sue and recover for any past infringement; and

provisions, based on any earlier patent applications for this invention.

the right to claim priority under 35 USC 119, 35 USC 120, or any other applicable

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RECORDED: 07/14/2020

THIS IS PAGE 2 OF AN ASSIGNMENT FROM THE INVENTOR(S) TO ASSIGNEE: TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD. INVENTION TITLE: SEMICONDUCTOR DEVICE AND METHOD OF FORMING DOPED CHANNEL THEREOF

As to all U.S. patent applications assigned under this agreement, the ASSIGNOR(S) hereby authorize(s) and request(s) the Commissioner of Patents and Trademark to issue all Letters Patent to the ASSIGNEE as the assignee of the entire right, title and interest, for the sole use and enjoyment of said ASSIGNEE, its successors and assigns.

Further, the ASSIGNOR(S) agree(s) to communicate to said ASSIGNEE, or its representatives, any fact known to the ASSIGNOR(S) with respect to said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, substitute, renewal, reexamination and reissue applications, execute all necessary assignment papers to cause and all Letter Patent to be issued to said ASSIGNEE, make all rightful oaths and generally do everything necessary or desirable to aid said ASSIGNEE, its successors and assigns, to obtain and enforce proper protection for said invention.

The ASSIGNOR(S) authorize(s) the attorneys and agents who have the power of attorney in this application to check any appropriate boxes and to insert the Serial Number and filing date in this document after it has been executed.

Tai-Yuan WANG
Name of sole or first inventor

Tai-Yuan Wang
Signature

Tai-Yuan Wang
Date

PATENT REEL: 053200 FRAME: 0236