504173387 01/11/2017

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
CHII-MING WU	12/30/2016
CHENG-TA WU	12/30/2016

RECEIVING PARTY DATA

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

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15403463

CORRESPONDENCE DATA

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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.

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ATTORNEY DOCKET NUMBER:	T5057-1251U
NAME OF SUBMITTER:	RANDY A. NORANBROCK
SIGNATURE:	/Randy A. Noranbrock/
DATE SIGNED:	01/11/2017

Total Attachments: 1

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PATENT REEL: 040945 FRAME: 0863

504173387

Docket No. T5057-1251U P20160742US00

ASSIGNMENT

In consideration of the premises and other good and valuable consideration in hand paid, the receipt and sufficiency of which is hereby acknowledged, the undersigned,

- 1) Chii-Ming WU
- 2) Cheng-Ta WU

RECORDED: 01/11/2017

who has made a certain new and useful invention, hereby sells, assigns and transfers unto TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY, LTD., <u>having a place of business at No. 8, Li-Hsin Rd. VI, Hsinchu Science Park</u>, Hsinchu 300, Taiwan R.O.C.

Hsinchu Science Park, Hsinchu 300, Taiwan R.Q.C. its successors and assigns (hereinafter designated "ASSIGNEE") the entire right, title and interest for the United States of America as defined in 35 U.S.C. 100 in the invention entitled

METHOD OF FORMING A DEVICE HAVING A DOPING LAYER AND DEVICE

FORM	1ED		
(a)	for which an application for United States Letters Patent was file identified by United States Patent Application No15/4		
(b)	for which an application for United States Letters Patent was exe	ecuted on,	
and the undersigned hereby authorizes and requests the United States Commissioner of Patents and Trademarks to issue any and all United States Letters Patent which may be granted therefore and any and all extensions, divisions, reissues, continuations, or continuations-in-part thereof, and the right to all benefits under the International Convention for the Protection of Industrial Property to the said ASSIGNEE, for its interest as ASSIGNEE, its successors, assigns and legal representatives; the undersigned agrees that the attorneys of record in said application shall hereafter act on behalf of said ASSIGNEE; AND the undersigned hereby agrees to transfer a like interest, and to render all necessary assistance in making application for and obtaining original, divisional, reissued or extended Letters Patent of the United States, upon request of the said ASSIGNEE, its successors, assigns and legal representatives, and without further remuneration, in and to any improvements, and applications for patent based thereon, growing out of or related to the said invention; and to execute any papers by the said ASSIGNEE, its successors, assigns and legal representatives, deemed essential to ASSIGNEE's full protection and title in and to the invention hereby transferred.			
	on the date indicated aside my signature;	cricu,	
1) Name:	Chii-Ming WU	12/30/2016 Date:	
2) Name:	Cheng-Ta Wu Cheng-Ta WU	12/30/2016 Date:	

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PATENT REEL: 040945 FRAME: 0864