# PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

### **CONVEYING PARTY DATA**

Name	Execution Date
CARLOS H. DIAZ	08/26/2014
CHIH-HAO WANG	08/26/2014
WAI-YI LIEN	08/26/2014
KAI-CHIEH YANG	08/26/2014
HAO-LING TANG	08/26/2014

### RECEIVING PARTY DATA

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State/Country:	TAIWAN
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# **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	14473215

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NAME OF SUBMITTER:	TARA JEFFERS
SIGNATURE:	/tara jeffers/
DATE SIGNED:	08/29/2014

**Total Attachments: 2** 

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**PATENT REEL: 033640 FRAME: 0850** 502957016

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PATENT REEL: 033640 FRAME: 0851

## ASSIGNMENT

This assignr	nent agreement is app	licable to an invention	entitled (Invention Title)	
VERTICAL TRANSISTOR AND METHOD OF MANUFACTURING THE SAME				
The PATEN	T RIGHTS referred to	in this agreement are:		
(check one)	⊠a patent application	n for this invention, exe	ecuted by the ASSIGNOR(S)	
	concurrently with t	his assignment.		
	☐U.S. patent applica	tion Serial No,file	ed	
	☐a U.S. patent applie	cation based on PCT In	ternational Application	
	No	_filed on (date)	(U.S. patent application	
	Serial No	, if known).		
	☐U.S. patent No	_, issued		
The PATEN	IT RIGHTS also inclu	de all divisions, reissue	s, continuations and extensions of	
the patents a	and patent applications	identified above.		
The PATEN	IT RIGHTS assigned ι	ınder this agreement ar	e:	
(check one)	⊠U.S. patent rights of	only.		
	☐Worldwide patent i	rights. In this case, the	assignee shall have the right to	
	claim the benefit or	the filing date of any l	J.S. or foreign patent application	
	for this invention.			
The ASSIG	NOR(S) referred to in	this agreement is (or a	e) the inventor(s) whose signatures	
appear on pa	age 2 of this Assignme	ent and any Supplemen	tal Sheet(s).	
The ASSIG	NEE referred to in this	agreement is:		
(Name of As	ssignee <u>) TAIWAN SE</u>	MICONDUCTOR MA	NUFACTURING CO., LTD.	
(Address)	NO.8, LI-HSIN RD.6	SCIENCE-BASED IN	IDUSTRIAL PARK, HSINCHU,	
TAIWAN 3	00, R.O.C.			
The ASSIG	NEE is:			
(check one)[	∏An individual.			
	A Partnership.			
	<u> </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

the right to claim priority under 35 USC 119, 35 USC 120, or any other applicable provisions, based on any earlier patent applications for this invention.

PATENT REEL: 033640 FRAME: 0852 THIS IS PAGE 2 OF AN ASSIGNMENT FROM THE INVENTOR(S) TO
ASSIGNEE: TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD.
INVENTION TITLE: VERTICAL TRANSISTOR AND METHOD OF
MANUFACTURING THE SAME

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.

Carlos H. DIAZ	Q, fo,	8/26/2014
Name of sole or first inventor	Signature /	Date
Chih-Hao WANG Name of second inventor, if any	Chih-Hao Ward	Date /2014
Wai-Yi LIEN  Name of third inventor, if any	Day John Signature	<u>Aug./26, 2014</u> Date
Kai-Chieh YANG Name of fourth inventor, if any	KG7-Chieh Yong Signature	$\frac{8/26, 2014}{\text{Date}}$
Hao-Ling TANG Name of fifth inventor, if any	tao-Ling Tang Signature	$\frac{8/\gamma_b}{\text{Date}}, 2014$

PATENT REEL: 033640 FRAME: 0853

RECORDED: 08/29/2014