

## PATENT ASSIGNMENT

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SUBMISSION TYPE:	NEW ASSIGNMENT														
NATURE OF CONVEYANCE:	ASSIGNMENT														
CONVEYING PARTY DATA															
<table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>Ker Hsiao HUO</td> <td>11/08/2012</td> </tr> <tr> <td>Chih-Chang CHENG</td> <td>11/08/2012</td> </tr> <tr> <td>Ru-Yi SU</td> <td>11/08/2012</td> </tr> <tr> <td>Jen-Hao YEH</td> <td>11/08/2012</td> </tr> <tr> <td>Fu-Chih YANG</td> <td>11/09/2012</td> </tr> <tr> <td>Chun Lin TSAI</td> <td>11/09/2012</td> </tr> </tbody> </table>		Name	Execution Date	Ker Hsiao HUO	11/08/2012	Chih-Chang CHENG	11/08/2012	Ru-Yi SU	11/08/2012	Jen-Hao YEH	11/08/2012	Fu-Chih YANG	11/09/2012	Chun Lin TSAI	11/09/2012
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<table border="1"> <tr> <td>Name:</td> <td>TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY, LTD.</td> </tr> <tr> <td>Street Address:</td> <td>No. 8, Li-Hsin Rd. VI, Hsinchu Science Park</td> </tr> <tr> <td>City:</td> <td>Hsinchu</td> </tr> <tr> <td>State/Country:</td> <td>TAIWAN</td> </tr> <tr> <td>Postal Code:</td> <td>300</td> </tr> </table>		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				
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CORRESPONDENCE DATA															
<p>Fax Number: 7035185499</p> <p><i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i></p> <p>Phone: 7036841111</p> <p>Email: tsmc@ipfirm.com</p> <p>Correspondent Name: Lowe Hauptman Ham &amp; Berner, LLP (TSMC)</p> <p>Address Line 1: 1700 Diagonal Road, Suite 300</p> <p>Address Line 4: Alexandria, VIRGINIA 22314</p>															
ATTORNEY DOCKET NUMBER:	T5057-672														
NAME OF SUBMITTER:	Randy A. Noranbrock														
<p>Total Attachments: 2</p> <p>source=efiledassgn2012-11-30#page1.tif</p> <p>source=efiledassgn2012-11-30#page2.tif</p>															

OP \$40.00 13673734

## 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) Ker Hsiao HUO    | 4) Jen-Hao YEH   |
| 2) Chih-Chang CHENG | 5) Fu-Chih YANG  |
| 3) Ru-Yi SU         | 6) Chun Lin TSAI |

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

### INSULATED GATE BIPOLAR TRANSISTOR STRUCTURE HAVING LOW SUBSTRATE LEAKAGE

(a) for which an application for United States Letters Patent was filed on 2012-11-09, and identified by United States Patent Application No. 13/673,734; or

(b) for which an application for United States Letters Patent was executed 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.

SIGNED on the date indicated aside my signature:

1) ✓ Ker Hsiao HUO  
Name: Ker-Hsiao HUO

✓ 2012.11.08  
Date:

2) ✓ Chih-Chang Cheng  
Name: Chih-Chang CHENG

✓ 2012.11.08  
Date:

3) ✓ Ru-Yi Su  
Name: Ru-Yi SU

✓ 2012.11.08  
Date:

4) ✓ Jen-Hao Yeh  
Name: Jen-Hao YEH

✓ 2012.11.08  
Date:

5) ✓ Fu-Chih Yang  
Name: Fu-Chih YANG

6) ✓ Chun-Lin Tsai  
Name: Chun Lin TSAI

✓ 2012, 11.09  
Date:

✓ 2012, 11.09  
Date: