

## 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>Yuri Masuoka</td> <td>04/17/2009</td> </tr> <tr> <td>Huan-Tsung Huang</td> <td>04/23/2009</td> </tr> </tbody> </table>		Name	Execution Date	Yuri Masuoka	04/17/2009	Huan-Tsung Huang	04/23/2009
Name	Execution Date						
Yuri Masuoka	04/17/2009						
Huan-Tsung Huang	04/23/2009						
RECEIVING PARTY DATA							
Name:	TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY, LTD.						
Street Address:	No. 8, Li-Hsin Rd. 6						
Internal Address:	Science-Based Industrial Park						
City:	Hsin-Chu						
State/Country:	TAIWAN						
Postal Code:	300-77						
PROPERTY NUMBERS Total: 1							
<table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>13715170</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13715170		
Property Type	Number						
Application Number:	13715170						
CORRESPONDENCE DATA							
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ATTORNEY DOCKET NUMBER:	2008-0548-D/24061.2366						
NAME OF SUBMITTER:	David M. O'Dell						
Signature:	/David M. O'Dell/						

Date:

04/08/2013

Total Attachments: 3

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Docket No.: 2008-0548 / 24061.1157  
Customer No.: 42717

**ASSIGNMENT**

WHEREAS, we,

- (1) Yuri Masuoka of 15F, #126 Shengli 1st Road  
Jhubei City, Hsinchu County 302, Taiwan, R.O.C.
- (2) Huan-Tsung Huang of 6F, #59 Chenggong 1st Street  
Hsinchu County, Taiwan, R.O.C.

have invented certain improvements in

**TRANSISTOR PERFORMANCE IMPROVING  
METHOD WITH METAL GATE**

for which we have executed an application for Letters Patent of the United States of America,

         of even date filed herewith; and  
  X   filed on 5-8-2009 and assigned application number 12/437,696; and

WHEREAS, we authorize the attorney of record to update this document to include Patent Office information as deemed necessary (i.e., filing date, serial number, etc.);

WHEREAS, Taiwan Semiconductor Manufacturing Company, Ltd., ("TSMC"), No. 8, Li-Hsin Rd. 6, Science-Based Industrial Park Hsin-Chu, Taiwan 300-77, Republic of China, is desirous of obtaining the entire right, title, and interest in, to and under the said invention and the said application in the United States of America and in any and all countries foreign thereto;

NOW, THEREFORE, for One Dollar (\$1.00) and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and other good and valuable consideration, we have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said TSMC, its successors, legal representatives, and assigns, the entire right, title, and interest in, to and under the said invention, and the said application, and all divisional, renewal, substitutional, and continuing applications thereof, and all Letters Patent of the United States of America which may be granted thereon and all reissues and extensions thereof, and all applications for Letters Patent which may be filed for said invention in any country or countries foreign to the United States of America, and all extensions, renewals, and reissues thereof, and all prior patents and patent applications from which a filing priority of the above-described patent application may be obtained, including the right to collect past damages; and we hereby authorize and request the Commissioner of Patents of the United States of America, and any official of any country or countries foreign to the United States of America, whose duty it is to issue patents on applications as aforesaid, to issue all Letters Patent for said invention to the said TSMC, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND WE HEREBY covenant that we have full right to convey the entire interest herein assigned, and that we have not executed, and will not execute, any agreement in conflict herewith.

AND WE HEREBY further covenant and agree that we will communicate to said TSMC, its successors, legal representatives and assigns, any facts known to us respecting said invention, and testify in any legal proceedings, sign all lawful papers, execute all divisional, renewal, substitutional,

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continuing, and reissue applications, make all rightful declarations and/or oaths and generally do everything possible to aid the said TSMC, its successors, legal representatives and assigns, to obtain and enforce proper patent protection for said invention in all countries.

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Inventor Name: Yuri Masuoka

Residence Address: 15F, #126 Shengli 1st Road  
Jhubei City, Hsinchu County 302, Taiwan, R.O.C.

Dated: 17/4/2009

*Y. Masuoka*  
Inventor Signature

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Inventor Name: Huan-Tsung Huang

Residence Address: 6F, #59 Chenggong 1st Street  
Hsinchu County, Taiwan, R.O.C

Dated: \_\_\_\_\_

\_\_\_\_\_  
Inventor Signature

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reissue applications, make all rightful declarations and/or oaths and generally do everything possible to aid the said TSMC, its successors, legal representatives and assigns, to obtain and enforce proper patent protection for said invention in all countries.

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Inventor Name: Yuri Masuoka  
Residence Address: 15F, #126 Shengli 1st Road  
Jhubei City, Hsinchu County 302, Taiwan, R.O.C.

Dated: \_\_\_\_\_  
Inventor Signature \_\_\_\_\_

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Inventor Name: Huan-Tsung Huang  
Residence Address: 6F, #59 Chenggong 1st Street  
Hsinchu County, Taiwan, R.O.C

Dated: ✓ Apr. 23, 2009  
Inventor Signature 