

PATENT ASSIGNMENT

Electronic Version v1.1
 Stylesheet Version v1.1

| 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>Xiaolong Ma</td> <td>01/25/2013</td> </tr> <tr> <td>Huaxiang Yin</td> <td>01/25/2013</td> </tr> <tr> <td>Miao Xu</td> <td>01/25/2013</td> </tr> <tr> <td>Huilong Zhu</td> <td>01/25/2013</td> </tr> </tbody> </table> | | Name | Execution Date | Xiaolong Ma | 01/25/2013 | Huaxiang Yin | 01/25/2013 | Miao Xu | 01/25/2013 | Huilong Zhu | 01/25/2013 |
| Name | Execution Date | | | | | | | | | | |
| Xiaolong Ma | 01/25/2013 | | | | | | | | | | |
| Huaxiang Yin | 01/25/2013 | | | | | | | | | | |
| Miao Xu | 01/25/2013 | | | | | | | | | | |
| Huilong Zhu | 01/25/2013 | | | | | | | | | | |
| RECEIVING PARTY DATA | | | | | | | | | | | |
| Name: | The institute of microelectronics, Chinese academy of sciences | | | | | | | | | | |
| Street Address: | No.3, Beitucheng West Road | | | | | | | | | | |
| Internal Address: | Chaoyang District | | | | | | | | | | |
| City: | Beijing | | | | | | | | | | |
| State/Country: | CHINA | | | | | | | | | | |
| Postal Code: | 100029 | | | | | | | | | | |
| PROPERTY NUMBERS Total: 2 | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>13812503</td> </tr> <tr> <td>Application Number:</td> <td>13812504</td> </tr> </tbody> </table> | | Property Type | Number | Application Number: | 13812503 | Application Number: | 13812504 | | | | |
| Property Type | Number | | | | | | | | | | |
| Application Number: | 13812503 | | | | | | | | | | |
| Application Number: | 13812504 | | | | | | | | | | |
| CORRESPONDENCE DATA | | | | | | | | | | | |
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| ATTORNEY DOCKET NUMBER: | 111710-111711 | | | | | | | | | | |
| NAME OF SUBMITTER: | Qng Ye | | | | | | | | | | |

OP \$80.00 13812503

Total Attachments: 8

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Docket No. 111710HK.121217.262 "Assignment Signature Page"
Semiconductor Device and Method for Manufacturing The Same

ASSIGNMENT

WHEREAS I/We, the below named inventor(s),

| | | |
|--------------|----|------------------|
| Xiaolong MA | of | Beijing, China |
| Huaxiang YIN | of | Beijing, China |
| Miao XU | of | Beijing, China |
| Huilong ZHU | of | Poughkeepsie, US |

hereby sell and assign to The Institute of Microelectronics, Chinese Academy of Sciences, a corporation of P.R.China, whose post office address is 3 Beitucheng West Road, Chaoyang District, Beijing 100029, P.R.China, hereinafter referred to as "Company", its successors and assigns our entire respective rights, titles and interests in and to the invention and improvements invented and originated by us and described in the Chinese Patent Application No. 201210293347.0 filed on August 16, 2012 and PCT International Application Number PCT/2012/001378 filed on October 12, 2012 and for United States Patent currently entitled:

Semiconductor Device and Method for Manufacturing The Same

Executed concurrently herewith,

and any and all applications for patent and patents therefrom in any and all countries, including all divisions, continuations, reexaminations and reissues thereof, and all rights of priority resulting from the filing of said United States application, and authorize and request any official whose duty it is to issue patents, to issue any patent on said inventions and improvements resulting therefrom to said Company, or its successors or assigns and agree that on request and without further consideration, but at the expense of said Company, we will communicate to said Company or its representatives or nominees any facts known to us respecting said inventions and improvements and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, reexamination and reissue applications, make all rightful oaths and generally do everything possible to aid said Company, its successors, assigns, and nominees to obtain and enforce proper patent protection for said invention and its improvements in all countries.

AND We/I hereby authorize and request our/my agents, USPTO customer number 93229, whose address is 106 Oakland Pl, Los Gatos, CA 95032, to insert hereon any identification

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Semiconductor Device and Method for Manufacturing The Same

necessary or desirable for recordation of this document, including the filing date and application number of said application when known.

AND We/I hereby covenant for ourselves/myself and our/my legal representatives, and agree with said Company, its successors and assigns, that We/I have granted no right or license to make, use, sell or offer to sell said improvements, to anyone except said Company, that prior to the execution of this assignment document, our/my right, title and interest in said improvements had not been otherwise encumbered, and that We/I have not and will not execute any instrument in conflict therewith;

AND We/I do hereby authorize and request the Director of the United States Patent and Trademark Office to issue any and all letters patent which may be granted upon said United States applications, or upon said improvements or any parts thereof when granted, to said Company.

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Semiconductor Device and Method for Manufacturing The Same

INVENTOR 1

Signature:
Xiaolong MA

马小隆
Signature

Date: 1/25/2013

Witnessed by:

Fan Yang
Signature

Date: 1/25/2013

Printed Name of Witness

Fan YANG

Witnessed by:

钟馨
Signature

Date: 1/25/2013

Printed Name of Witness

Zhong Xin

INVENTOR 2

Signature:
Huaxiang YIN

殷华祥
Signature

Date: 1/25/2013

Witnessed by:

Fan Yang
Signature

Date: 1/25/2013

Printed Name of Witness

Fan YANG

Witnessed by:

钟馨
Signature

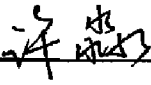
Date: 1/25/2013

Printed Name of Witness

Zhong Xin

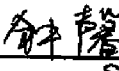
Docket No. 111710HK.121217.262 "Assignment Signature Page"
Semiconductor Device and Method for Manufacturing The Same

INVENTOR 3

Signature:  Date: 11/25/2013
Miao XU


Witnessed by: Fan YANG Date: 11/25/2013
Signature

Fan YANG
Printed Name of Witness

Witnessed by:  Date: 11/25/2013
Signature

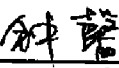
Zhong Xin
Printed Name of Witness

INVENTOR 4

Signature:  Date: 11/25/2013
HuiLong ZHU

Witnessed by: Fan YANG Date: 11/25/2013
Signature

Fan YANG
Printed Name of Witness

Witnessed by:  Date: 11/25/2013
Signature

Zhong Xin
Printed Name of Witness

Docket No. 111711HK.121217.263 "Assignment Signature Page"
Semiconductor Device

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Semiconductor Device

Executed concurrently herewith,

and any and all applications for patent and patents therefrom in any and all countries, including all divisions, continuations, reexaminations and reissues thereof, and all rights of priority resulting from the filing of said United States application, and authorize and request any official whose duty it is to issue patents, to issue any patent on said inventions and improvements resulting therefrom to said Company, or its successors or assigns and agree that on request and without further consideration, but at the expense of said Company, we will communicate to said Company or its representatives or nominees any facts known to us respecting said inventions and improvements and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, reexamination and reissue applications, make all rightful oaths and generally do everything possible to aid said Company, its successors, assigns, and nominees to obtain and enforce proper patent protection for said invention and its improvements in all countries.

AND We/I hereby authorize and request our/my agents, USPTO customer number 93229, whose address is 106 Oakland PI, Los Gatos, CA 95032, to insert hereon any identification necessary or desirable for recordation of this document, including the filing date and application number of said application when known.

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Semiconductor Device

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AND We/I do hereby authorize and request the Director of the United States Patent and Trademark Office to issue and all letters patent which may be granted upon said United States applications, or upon said improvements or any parts thereof when granted, to said Company.

INVENTOR 1

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PATENT
REEL: 029699 FRAME: 0690

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Semiconductor Device

Signature: 马小亮
Xiaolong MA

Date: 11/25/2013

Witnessed by: Fan Yang
Signature

Date: 11/25/2013

Fan YANG
Printed Name of Witness

Witnessed by: 钟馨
Signature

Date: 11/25/2013

Zhong Xin
Printed Name of Witness

INVENTOR 2

Signature: 殷华祥
Huaxiang YIN

Date: 11/25/2013

Witnessed by: Fan YANG
Signature

Date: 11/25/2013

Fan YANG
Printed Name of Witness

Witnessed by: 钟馨
Signature

Date: 11/25/2013

Zhong Xin
Printed Name of Witness

INVENTOR 3

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Semiconductor Device

Signature: 许磊
Miao XU

Date: 1/25/2013

Witnessed by: Fan YANG
Signature

Date: 1/25/2013

Fan YANG
Printed Name of Witness

Witnessed by: 钟馨
Signature

Date: 1/25/2013

Zhong Xin
Printed Name of Witness

INVENTOR 4

Signature: [Signature]
Huilong ZHU

Date: 1/25/2013

Witnessed by: Fan YANG
Signature

Date: 1/25/2013

Fan YANG
Printed Name of Witness

Witnessed by: 钟馨
Signature

Date: 1/25/2013

Zhong Xin
Printed Name of Witness