

PATENT ASSIGNMENT

Electronic Version v1.1
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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>Hyongsoo KIM</td> <td>06/12/2012</td> </tr> <tr> <td>Eunkee HONG</td> <td>08/31/2012</td> </tr> <tr> <td>Kwangtae HWANG</td> <td>06/12/2012</td> </tr> </tbody> </table>		Name	Execution Date	Hyongsoo KIM	06/12/2012	Eunkee HONG	08/31/2012	Kwangtae HWANG	06/12/2012
Name	Execution Date								
Hyongsoo KIM	06/12/2012								
Eunkee HONG	08/31/2012								
Kwangtae HWANG	06/12/2012								
RECEIVING PARTY DATA									
Name:	Samsung Electronics Co., Ltd.								
Street Address:	129, Samsung-ro, Yeongtong-gu, Suwon-si								
City:	Gyeonggi-do								
State/Country:	KOREA, REPUBLIC OF								
Postal Code:	443-742								
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>13617148</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13617148				
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Application Number:	13617148								
CORRESPONDENCE DATA									
Fax Number:	7032070003								
Phone:	703-207-0008								
Email:	eoal@lee-iplaw.com								
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent via US Mail.</i>									
Correspondent Name:	LEE & MORSE, P.C.								
Address Line 1:	3141 FAIRVIEW PARK DRIVE								
Address Line 2:	SUITE 500								
Address Line 4:	FALLS CHURCH, VIRGINIA 22042								
ATTORNEY DOCKET NUMBER:	239/1009								
NAME OF SUBMITTER:	Susan S. Morse								
Total Attachments: 2 source=Assignment#page1.tif source=Assignment#page2.tif									

OP \$40.00 13617148

ASSIGNMENT

Name and Address of Assignee	For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, each undersigned inventor has sold and assigned, and by these presents hereby sells and assigns, unto SAMSUNG ELECTRONICS CO., LTD., 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 443-742, Republic of Korea
	(hereinafter ASSIGNEE) all right, title and interest for the United States, its territories and possessions in and to his invention relating to

Title of Invention	SEMICONDUCTOR MEMORY DEVICES AND METHODS OF FABRICATING THE SAME as set forth in this United States Patent Application
--------------------	--

Check One	<input type="checkbox"/> executed concurrently herewith <input type="checkbox"/> executed on _____ <input type="checkbox"/> Serial No. _____ Filed _____
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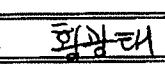
in and to said United States Patent Application including any and all divisions or continuations thereof and in and to any and all Letters Patent of the United States which may issue on any such application or for said invention, including any and all reissues or extensions thereof, to be held and enjoyed by said ASSIGNEE, its successors, legal representatives and assigns to the full end of the term or terms for which any and all such Letters Patent may be granted as fully and entirely as would have been held and enjoyed by the undersigned had this Assignment not been made;

Each of the undersigned hereby authorizes and requests the Commissioner of Patents and Trademarks to issue any and all such Letters Patent to said ASSIGNEE, its successors or assigns in accordance herewith;

Each of the undersigned warrants and covenants that he has the full and unencumbered right to sell and assign the interests herein sold and assigned and that he has not executed and will not execute any document or instrument in conflict herewith;

Each of the undersigned further covenants and agrees he will communicate to said ASSIGNEE, its successors, legal representatives or assigns all information known to him relating to said invention or patent application and that he will execute and deliver any papers, make all rightful oaths, testify in any legal proceedings and perform all other lawful acts deemed necessary or desirable by said ASSIGNEE, its successors, legal representatives or assigns to perfect title to said invention, to said application including divisions and continuations thereof and to any and all Letters Patent which may be granted therefore or thereon, including reissues or extensions, in said ASSIGNEE, its successors, or assigns or to assist said ASSIGNEE, its successors, legal representatives or assigns in obtaining, reissuing or enforcing Letters Patent of the United States for said invention;

Each of the undersigned hereby grants the firm of **LEE & MORSE, P.C.** the power to insert in this Assignment any further identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for recordation of this Assignment.

NAMES AND SIGNATURES OF INVENTORS		
Name: Hyongsoo KIM	Signature: 	Date: 06/20/12
Name: Eunkee HONG	Signature: 	Date: _____
Name: Kwangtae HWANG	Signature: 	Date: 06/11/2012
NAMES AND SIGNATURES OF WITNESSES		
Name: _____	Signature: _____	Date: _____
Name: _____	Signature: _____	Date: _____

Note: *Prima facie* evidence of execution may optionally be obtained by execution of this document before a U.S. Consul or before a local officer authorized to administer oaths whose authority is proved by a certificate from a U.S. Consul.

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NAMES AND SIGNATURES OF INVENTORS		
Name: Hyongsoo KIM	Signature: _____	Date: _____
Name: Eunkee HONG	Signature: <i>Eunkee Hong</i>	Date: <i>08/31/2012</i>
Name: Kwangtae HWANG	Signature: _____	Date: _____
NAMES AND SIGNATURES OF WITNESSES		
Name: _____	Signature: _____	Date: _____
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PATENT**RECORDED: 09/14/2012****REEL: 028974 FRAME: 0116**