

05-21-1999



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Tab settings

To the Honorable Commissioner of Patents and Trademarks. Please return the attached original documents or copy thereof.

MCD 5-7-99

1. Name of conveying party(ies):  
**HA, Heon-jae**                      **PARK, Chun-yong**  
**SON, Hong-seong**  
**HONG, Young-ki**  
**SONG, Jae-inh**

Additional names(s) of conveying party(ies)       Yes    No

2. Name and address of receiving party(ies):  
Name: **SAMSUNG ELECTRONICS CO., LTD.**  
Address: **416, Maetan-dong, Paldal-gu,**  
  
**Suwon-city, Kyungki-do**      State/Prov.:  
Country: **Republic of Korea**      ZIP:

Additional name(s) & address(es)       Yes    No

JCS42 U.S. PTO  
09/306917  
05/07/99

3. Nature of conveyance:  
 Assignment                       Merger  
 Security Agreement               Change of Name  
 Other

Execution Date: **April 26, 1999**

4. Application number(s) or registration numbers(s): **09/306,917**  
If this document is being filed together with a new application, the execution date of the application is: **April 26, 1999**

Patent Application No.	Filing date	B. Patent No.(s)

Additional numbers       Yes    No

5. Name and address of party to whom correspondence concerning document should be mailed:  
Name: **RAYMOND C. JONES**  
Registration No. **34,631**  
Address: **JONES VOLENTINE, LLP**  
**12200 SUNRISE VALLEY DRIVE, SUITE 150**  
  
City: **RESTON**      State/Prov.: **VA**  
Country: **U.S.A.**      ZIP: **20191**

6. Total number of applications and patents involved: **1**

7. Total fee (37 CFR 3.41):.....\$ **40.00**  
 Enclosed - Any excess or insufficiency should be credited or debited to deposit account  
 Authorized to be charged to deposit account

8. Deposit account number: **50-0238**

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9. Statement and signature.  
*To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.*

**RAYMOND C. JONES**      *[Signature]*      **MAY 7, 1999**  
Name of Person Signing      Signature      Date

Total number of pages including cover sheet, attachments, and

PATENT

# ASSIGNMENT

In consideration of the sum of One Dollar (\$1.00) and other good and valuable consideration paid to each of the undersigned

Insert Name(s) of Inventor(s) Heon-jae HA  
Hong-seong SON  
Young-ki HONG  
Jae-inh SONG and Chun-yong PARK

Insert Name(s) of Assignee(s) the undersigned hereby sell(s) and assign(s) to  
SAMSUNG ELECTRONICS CO., LTD.

Address of 416, Maetan-dong, Paldal-gu, Suwon-city, Kyungki-do, Republic of Korea

Title of Invention (hereinafter designated as the Assignee) the entire right, title and interest for the United States as defined in 35 USC 100, in the invention known as **PRE-TREATMENT METHOD PERFORMED ON A SEMICONDUCTOR STRUCTURE BEFORE FORMING HEMI-SPHERICAL GRAINS OF CAPACITOR STORAGE NODE**

Date of Signing of Application for which an application for patent in the United States of America has been executed by the undersigned on April 26, 1999

The undersigned agree(s) to execute all papers necessary in connection with this application and any continuing, divisional or reissue applications thereof and also to execute separate assignments in connection with such applications as the Assignee may deem necessary or expedient.

The undersigned agree(s) to execute all papers necessary in connection with any interference which may be declared concerning this application or continuation, division or reissue thereof and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such interference.

The undersigned agree(s) to execute all papers and documents and perform any act which may be necessary in connection with claims or provisions of the International Convention for Protection of Industrial Property or similar agreements.

The undersigned agree(s) to perform all affirmative acts which may be necessary to obtain a grant of a valid United States patent to the Assignee.

The undersigned hereby authorize(s) and request(s) the Commissioner of Patents to issue any and all Letters Patents of the United States resulting from said application or any division or divisions or continuing or reissue applications thereof to the said Assignee, as Assignee of the entire interest, and hereby covenants that he has (they have) full right to convey the entire interest herein assigned, and that he has (they have) not executed, and will not execute, any agreement in conflict herewith.

The undersigned hereby grant(s) to Raymond C. Jones, Reg. No. 34,631 and Adam C. Volentine, Reg. No. 33,289, members of the firm of JONES & VOLENTINE, L.L.P. the power to insert on this assignment any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent Office for recordation of this document.

In witness whereof, executed by the undersigned on the date(s) opposite the undersigned name(s).

Date 99.4.26, Name of Inventor Heon-jae HA  
 Heon-jae HA

Date 99.4.26, Name of Inventor Hong-seong SON  
 Hong-seong SON

Date 99.4.26, Name of Inventor Young-ki HONG  
 Young-ki HONG

Date 99.4.26, Name of Inventor Jae-inh SONG  
 Jae-inh SONG

Date 99.4.26, Name of Inventor Chun-yong PARK  
 Chun-yong PARK

(Note regarding Witnessing and/or Acknowledgment: Acknowledgment before a United States Consul is preferred but not required. If not acknowledged, then it is recommended that the execution by the Inventor(s) be witnessed by at least two witnesses who sign here. However, the current practice of the U.S. Patent and Trademark Office is to record an Assignment even if it has not been acknowledged and/or recorded.)

Witness \_\_\_\_\_

Witness \_\_\_\_\_

### ACKNOWLEDGMENT

\_\_\_\_\_ }  
 \_\_\_\_\_ } ss

This \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_, before me

personally came the above-named \_\_\_\_\_

to me personally known as the individual(s) who executed the foregoing assignment, who did acknowledge to me that he (they) executed the same of his (their) own free will for the purposes therein set forth.

\_\_\_\_\_  
Official Signature

SEAL

\_\_\_\_\_  
Official Title

\*\*\*\*\*

Applicant Reference No.: SS-11751-US Atty Docket No.: SEC.469

Serial No.: \_\_\_\_\_ Filing Date: \_\_\_\_\_