To the Honorable Director of the United States Patent and Trademark Office:

1. Name of conveying party(ies):
   LEE, Sung-Bae
   HAH, Sang-Rok
   SON, Hong-Seong

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

2. Name and address of receiving party(ies):
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   City: Suwon-city, Kyungki-do  State/Prov.: 
   Country: Republic of Korea  ZIP: 

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

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

   Execution Date: September 18, 2003

4. Application number(s) or patent numbers(s):
   If this document is being filed together with a new application, the execution date of the application is: September 18, 2003

   Patent Application No. Filling date
   NEW
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   Additional numbers □ Yes □ No

B. Patent No.(s)

5. Name and address of party to whom correspondence concerning document should be mailed:
   Name: ADAM C. VOLENTINE
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6. Total number of applications and patents involved: 1

7. Total fee (37 CFR 3.41): $ 40.00
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   ADAM C. VOLENTINE
   Name of Person Signing
   Signature
   SEPTTEMBER 30, 2003

Total number of pages including cover sheet, attachments, and document: 3

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PATENT
REEL: 014568 FRAME: 0849
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)
Sung-Bae LEE
Sang-Rok HAH
Hong-Seong SON

the undersigned hereby sell(s) and assign(s) to

Insert
Name(s) of
Assignee(s) &
SAMSUNG ELECTRONICS CO., LTD.

Address(es)
of 416, Maetan-dong, Paldal-gu, Suwon-city, Gyeonggi-do, 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

METHOD OF FORMING A TRENCH FOR USE IN MANUFACTURING

A SEMICONDUCTOR DEVICE

Date of
Signing of
Application
for which an application for patent in the United States of America has been executed by

the undersigned on September 18, 2003

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 continuing, 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 Adam C. Volentine, Reg. No. 33,289 and William S. Francos, Reg. No. 38,456, and the firm of VOLENTINE FRANCOS, P.L.L.C. 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 ____________ SIGNATURE OF INVENTOR ____________

(Signed) Sung-Bae LEE

Date ____________ SIGNATURE OF INVENTOR ____________

(Signed) Sang-Rok HAH

Date ____________ SIGNATURE OF INVENTOR ____________

(Signed) Hong-Seong SON

(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 it has not been acknowledged and/or witnessed.)

Witness

Witness

ACKNOWLEDGMENT

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Applicant Reference No. AW8124US/JY Atty Docket No. SEC.1084