Docket No.: SEC.1383 COVER SHEET FORM PTO-15-5 (Modified) U.S. DEPARTMENT OF COMMERCE 08-31-2005 (Rev. 03-01) OMB No 0651-0027 (exp.5/31/2002) P08A/F€./03 Patent and Trademark Office Tab settings → → To the Director of the United Sta cord the attached original documents or copy thereof. 103071541 1. Name of conveying party(ies): Z. INGING and address of receiving party(ies): Jin-Woo LEE Yong-Sung KIM Name: SAMSUNG ELECTRONICS CO., LTD. Tae-Young CHUNG Address: 416, Maetan-dong, Yeongtong-gu, Suwonesi ☐ Yes ☒ No Additional names(s) of conveying party(ies) 3. Nature of conveyance: ■ Assignment ☐ Merger City: Gyeonggi-do ☐ Security Agreement ☐ Change of Name \_ State/Prov.: □ Other Country: Republic of Korea ZIP: Execution Date: AUGUST 17, 2005 Additional name(s) & address(es) ☐ Yes ⊠ No 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: **AUGUST 17, 2005** Patent Application No. Filing date B. Patent No.(s) **NEW AUGUST 25, 2005** ☐ Yes ☒ No Additional numbers 5. Name and address of party to whom correspondence 6. Total number of applications and patents involved: concerning document should be mailed: Name: STEPHEN R. WHITT 7. Total fee (37 CFR 3.41):....\$ 40.00 Registration No. 34,753 Enclosed - Any excess or insufficiency should be credited or debited to deposit account Address: VOLENTINE FRANCOS & WHITT, PLLC Authorized to be charged to deposit account ONE FREEDOM SQUARE 8. Deposit account number: 11951 FREEDOM DRIVE, SUITE 1260 50-0238 City: RESTON State/Prov.: VA Country: U.S.A. ZIP: 20190 (Attach duplicate copy of this page if paying by deposit account)

9. Statement and signature.

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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.

STEPHEN R. WHITT

Name of Person Signing

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Date

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VÖLENTINE FRANCOS & WHITT, P.L.L.C. (9/2004)

ATTORNEY DOCKET NO. SEC.1383

	ASSIC	NMENT		
	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)	1. Jin-Woo LEE	5.		
	2. Yong-Sung KIM	6		
		7		
	4.	8		
Insert Name(s) of	the undersigned hereby sell(s) and assign(s) to			
Assignee(s) &	SAMSUNG ELECTRONICS CO., LTD. 416, Maetan-dong, Yeongtong-gu,			
Address(es)	of Suwon-si, Gyeo	onggi-do, Republic of Korea		
	(hereinafter designated as the Assign States as defined in 35 USC 100, in t	ee) the entire right, title and interest for the United he invention known as		
Title of Invention	DRAM HAVING AT LEAST THREE LAYERED IMPURITY REGIONS BETWEEN CHANNEL HOLES AND METHOD OF FABRICATING SAME			
Date of Signing of	for which an application for patent in the United States of America has been executed by			
Application	the undersigned on			
	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			

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will not execute, any agreement in conflict herewith.

PATENT REEL: 016921 FRAME: 0605 VOLENTINE FRANCOS & WHITT, P.L.L.C. (9/2004)

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The undersigned hereby grant(s) the practitioners associated with the <u>CUSTOMER NUMBER 20987</u> 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 roat, og	<u>'7.</u>	Signature of Inventor	Jin-Woo LEE
Date <u>2005</u> , 06	1.19	Signature of Inventor	Yong-Sung KIM
Date 2 605. 08	8.17	Signature of Inventor	Tae Young Chung Tae-Young CHUNG
Date		Signature of Inventor	
Date	<del></del>	Signature of Inventor	
Date		Signature of Inventor	
Date		Signature of Inventor	

Applicant Reference No.	SPX200407-0028US
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PATENT REEL: 016921 FRAME: 0606

**RECORDED: 08/25/2005**