09-07-1999

**1 COVER SHEET** 

Patents Only

To the Honorable Commissioner 101136811	August 24, 1999 Attorney Dkt: 5649-460
Please record the attached original documents or copy there	
Name of conveying party(ies):  Jae-gun Park	Name and address of receiving party(ies):  Samsung Electronics Co., Ltd.
Kyoo-chul Cho Gon-sub Lee	416 Maetan-dong, Paldal-gu Suwon-City, Kyungki-do Republic of Korea
Additional name(s) of conveying party(ics) attached? Yes X No	
3. Nature of conveyance:	
X Assignment  Merger Security Agreement Change of Name Other	
Execution Date: August 16, 1999	Additional name(s) & address(es) attached? Yes X_ No
4. Application Serial No08/989,591, filed December 12, 1  If this document is being filed together with a new application is:  Additional numbers attached? Yes _X_ No	
5. Name and address of party to whom correspondence concerning document should be mailed:	6. Total number of applications and patents involved: 1
Mitchell S. Bigel Myers Bigel Sibley & Sajovec P.O. Box 37428 Raleigh, North Carolina 27627	7. Total fee (37 CFR 3.41) \$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
	8. Deposit account number: 50-0220
(Attach duplicate copy of this page if paying by deposit account)  DO NOT USE THIS SPACE	
9. Statement and signature  To the best of my knowledge and belief, the foregoing informa of the original document.  /03/1999 NTHAI1 00000138 08989591  FC:581 Mitchell S. Bigel, #29,614	tion is true and correct and any attached copy is a true copy    Syel   3/24/88
Signature Date  Total number of pages including cover sheet, attachments and document: 3	

## ASSIGNMENT

THIS ASSIGNMENT, made by us, Jae-gun Park, a citizen of the Republic of Korea, residing at Kunyoung Apt. 1003-1901, Gumi-dong, Puntang-gu, Sungnam-city, Kyungki-do. Republic of Korea; Kyoo-chul cho, a citizen of the Republic of Korea, residing at Hansung Apt. 110-1004, 698-2, Poongdukchun-ri, Suji-eub, Yongin-city, Kyungki-do, Republic of Korea; and Gon-sub Lee, a citizen of the Republic of Korea, residing at Ibji Housing Ka-402, 108-15, Songjook-dong, Changan-gu, Suwon-city, Kyungki-do, Republic of Korea;

WITNESSETH: That,

WHEREAS, we are the joint inventors of certain new and useful improvements in METHODS OF MANUFACTURING MONOCRYSTALLINE SILICON INGOTS AND WAFERS BY CONTROLLING PULL RATE PROFILES IN A HOT ZONE FURNACE, AND INGOTS AND WAFERS MANUFACTURED THEREBY for which an application for United States Letters Patent has been filed in the United States Patent and Trademark Office. We hereby authorize and request Myers Bigel Sibley & Sajovec, P.A., to insert here in parentheses (Application No. <u>08/989.591</u>, filed <u>December 12, 1997</u>) the filing date and application number of said application when known or to file this Assignment concurrently with the application, and

WHEREAS, Samsung Electronics Co., Ltd., a Korcan corporation having a principal place of business at 416 Maetan-dong, Paldal-gu, Suwon-City, Kyungki-do, Republic of Korea, hereinafter referred to as assignee, is desirous of acquiring the entire right, title and interest in and to said invention as described in said application, and in and to any and all Letters Patent which shall be granted therefor in the United States of America and all foreign countries;

NOW. THEREFORE, To Whom It May Concern, be it known that for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, we have sold and by these presents do hereby sell, assign, transfer and convey unto the said assignee, its successors and assigns, the entire right, title and interest in and to the said invention and application, and in and to any and all continuations, continuations-in-part, or divisions thereof, and in and to any and all Letters Patent of the United States of America and all foreign countries or reissues thereof which may be granted therefor or thereon, for the full end of the term for which said Letters Patent may be granted, together with the right to claim the priority of said application in all foreign countries in accordance with the International Convention, the same to be held and enjoyed by said assignee, its successors and assigns, as

PATENT REEL: 010205 FRAME: 0442 fully and entirely as the same would have been held and enjoyed by us if this assignment and sale had not been made.

We hereby request that said Letters Patent be issued in accordance with this assignment.

We further covenant and agree that, at the time of the execution and delivery of these presents, we possess full title to the invention and application above-mentioned, and that we have the unencumbered right and authority to make this assignment.

We further covenant and agree to bind our heirs, legal representatives and assigns, promptly to communicate to said assignee or its representatives any facts known to us relating to said invention, to testify in any interference or legal proceedings involving said invention, to execute any additional papers which may be requested to confirm the right of the assignee, its representatives, successors or assigns to secure patent or similar protection for the said invention in all countries and to vest in the assignee complete title to the said invention and Letters Patent, without further compensation, but at the expense of said assignee, its successors, assigns and other legal representatives.

Jae-gun Park

Kyoo-chul Cho

Gon-sub Lee

Witnessed by:

Date: A nust 16. 1499

Date: August 16, 1999