

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
QINTAO ZHANG	09/09/2019
KYU-HA SHIM	09/09/2019
RECEIVING PARTY DATA	
Name:	APPLIED MATERIALS, INC.
Street Address:	3050 BOWERS AVENUE
City:	SANTA CLARA
State/Country:	CALIFORNIA
Postal Code:	95054
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	16560224
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ATTORNEY DOCKET NUMBER:	44016307
NAME OF SUBMITTER:	BARBARA J. JACKSON
SIGNATURE:	/Barbara J. Jackson/
DATE SIGNED:	09/23/2019
Total Attachments: 2	
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ASSIGNMENT

WHEREAS, the undersigned, to wit:

Qintao Zhang
Kyu-Ha Shim

(Hereinafter collectively ASSIGNOR), have/has made a certain new and useful invention as set forth in an application for United States Letters Patent, entitled:

REPLACEMENT METAL GATE FORMATION OF PMOS ULTRA-LOW VOLTAGE DEVICES USING A
THERMAL IMPLANT

(X only one):

- (A) which was executed concurrently herewith and is being filed herewith in the United States Patent and Trademark Office;
- (B) which was executed on _____, 20____, and is being filed herewith in the United States Patent and Trademark Office;
- (C) which was filed as US Patent Application No. 16/560,224, filed on September 4, 2019

AND WHEREAS, Applied Materials, Inc., (hereinafter ASSIGNEE), a corporation organized and existing under the laws of the state of Delaware, and having its principal place of business at 3050 Bowers Avenue, Santa Clara, California, 95054, is desirous of acquiring the entire right, title, and interest in and to said invention and any and all patents that may be obtained therefore, and in and to said application and any and all patents that may issue therefrom;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, ASSIGNOR does hereby sell, assign, transfer, and set over unto said ASSIGNEE, its successors, assigns, and legal representatives, all right, title, and interest in and to said invention throughout the world, and any and all patents of the United States and foreign countries that may be obtained therefor, and in and to said application, including any and all continuations, continuations-in-part, divisionals, reissues, re-examinations, substitutions, and extensions thereof, and any and all patents of the United States and foreign countries that may issue therefrom, such right, title, and interest including the right to file applications and obtain patents, utility models, industrial models and designs for said invention in the name of said ASSIGNEE, its successors, assigns, and legal representatives throughout the world, including all rights of priority, all rights to publish cautionary notices reserving ownership of said invention, and all rights to register said invention in appropriate registries;

ASSIGNOR also does hereby covenant that it has the full right to convey the entire right, title, and interest herein assigned, and that it has not and will not execute any agreement in conflict herewith;

ASSIGNOR also does hereby authorize and request the Commissioner of Patents and Trademarks to issue any and all Letters Patent of the United States on said invention or resulting from said application, including any continuations, continuations-in-part, divisions, reissues, re-

examinations, substitutions, and extensions thereof, to said ASSIGNEE, its successors, assigns, and legal representatives as the ASSIGNEE of the entire right, title, and interest herein assigned;

ASSIGNOR also does hereby agree to, at any time, upon request, without further or additional consideration, but at the expense of said ASSIGNEE, its successors, assigns, or legal representatives, execute and deliver any and all papers, make all rightful oaths, and do all lawful acts that may be necessary or desirable to perfect the entire right, title, and interest here assigned in said ASSIGNEE, its successors, assigns, and legal representatives, and generally do everything possible to vest the entire right, title and interest herein assigned in said ASSIGNEE, its successors, assigns, and legal representatives;

ASSIGNOR also does hereby agree to, at any time, upon request, without further or additional consideration, but at the expense of said ASSIGNEE, its successors, assigns, or legal representatives, execute and deliver any and all papers, make all rightful oaths, and do all lawful acts that may be necessary or desirable to make application for and obtain any and all continuations, continuations-in-part, divisions, reissues, re-examinations, substitutions, and extensions of said application, or any application on said invention, or any patent issuing therefor or therefrom;

ASSIGNOR also does hereby agree to, at any time, upon request, without further or additional consideration but at the expense of said ASSIGNEE, its successors, assigns, and legal representatives, communicate to said ASSIGNEE, its successors, assigns, and legal representatives, any known facts relating to said invention or said application or any patent issuing therefor or therefrom, and testify as to the same in any interference or other litigation proceeding when requested to do so, and aid said ASSIGNEE, its successors, assigns, and legal representatives, in obtaining and enforcing property protection for said invention in all countries;


ASSIGNOR also does hereby grant the Legal Department of Varian Semiconductor Equipment Associates, Inc., at the address shown above, the power to insert on this assignment any further information, including, but not limited to application number(s) and filing date(s), which may be necessary or desirable in order to comply with any rule or request of the United States Patent and Trademark Office for the purposes of recording this document.

ASSIGNOR also does now hereby execute this document on the date(s) indicated below:

Sept 9, 2019
Date


Name: Qintao Zhang

9.9.2019
Date


Name: Kyu-Ha Shim