505179931 11/07/2018

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5226699

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
KATSUMI YAMAMOTO	10/10/2018
KEISUKE KIKUTANI	11/02/2018

RECEIVING PARTY DATA

Name:	TOSHIBA MEMORY CORPORATION	
Street Address:	1-1 SHIBAURA 1-CHOME	
City:	MINATO-KU, TOKYO	
State/Country:	ate/Country: JAPAN	
Postal Code:	105-0023	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16105892

CORRESPONDENCE DATA

Fax Number:

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 2022954065

Email: KZOMBO@FOLEY.COM, LNOVAK@FOLEY.COM,

JADAMO@FOLEY.COM, BCORBIN@FOLEY.COM,

YELAGHA@FOLEY.COM, IPDOCKETING@FOLEY.COM

Correspondent Name: FOLEY & LARDNER LLP

Address Line 1: 3000 K ST NW

Address Line 4: WASHINGTON, D.C. 20007

ATTORNEY DOCKET NUMBER:	114124-0210
NAME OF SUBMITTER:	YASMEEN ELAGHA
SIGNATURE: /Yasmeen Elagha/	
DATE SIGNED:	11/07/2018

Total Attachments: 4

source=114124-0210_Executed_Assignment#page1.tif source=114124-0210_Executed_Assignment#page2.tif source=114124-0210_Executed_Assignment#page3.tif

PATENT 505179931 REEL: 047438 FRAME: 0971

source=114124-0210_Executed_Assignment#page4.tif

PATENT REEL: 047438 FRAME: 0972

U.S. Rights-Sole or Joint

ASSIGNMENT

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, each undersigned inventor has sold and assigned, and by these presents hereby sells and assigns, unto

TOSHIBA MEMORY CORPORATION

1-1, Shibaura 1-chome Minato-ku, Tokyo 105-0023 Japan

(hereinafter ASSIGNEE) all right, title and interest for the United States, its territories and possessions in and to this invention relating to

SEMICONDUCTOR DEVICE AND MANUFACTURING METHOD THEREOF

check ☐ executed concurrently herewith
one ☐ executed on
☐ Serial No 16/105,892 filed August 20,2018

as set forth in this United States Patent Application

in and to said United States Patent Application including any and all divisions or continuations thereof and in and to any and all Letters Patent of the United States which may issue on any such application or for said invention, including any and all reissues or extensions thereof, to be held and enjoyed by said ASSIGNEE, its successors, legal representatives and assigns to the full end of the term or terms for which any and all such Letters Patent may be granted as fully and entirely as would have been held and enjoyed by the undersigned had this Assignment not been made;

Each of the undersigned hereby authorizes and requests the Commissioner of Patents and Trademarks to issue any and all such Letters Patent to said ASSIGNEE, its successors or assigns in accordance herewith;

Each of the undersigned warrants and covenants that he has the full and unencumbered right to sell and assign the interests herein sold and assigned and that he has not executed and will not execute any document or instrument in conflict herewith;

Each of the undersigned further covenants and agrees he will communicate to said ASSIGNEE, its successors, legal representatives or assigns all information known to him relating to said invention or patent application and that he will execute and deliver any papers, make all rightful oaths, testify in any legal proceedings and perform all other lawful acts deemed necessary or desirable by said ASSIGNEE, its successors, legal representatives or assigns to perfect title to said invention, to said application including divisions and continuations thereof and to any and all Letters Patent which may be granted therefor or thereon, including reissues or extensions, in said ASSIGNEE, its successors, or assigns or to assist said ASSIGNEE, its successors, legal representatives or assigns in obtaining, reissuing or enforcing Letters Patent of the United States for said invention;

Each of the undersigned hereby grants the firm of **FOLEY & LARDNER LLP** the power to insert in this Assignment any further identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for recordation of this Assignment.

--

NAMES AND SIGNATURES OF INVENTORS			
Name: Katsumi YAMAMOTO	Signature: Katsumi Yamamoto	Date: Oct. 10, 2018	
Name: Keisuke KIKUTANI	Signature:	Date:	
Name:	Signature:	Date:	
Name:	Signature:	Date:	
Name:	Signature:	Date:	
NAMES AND SIGNATURES OF WITNESSES			
Name:	Signature:	Date:	

Note: *Prima facie* evidence of execution may optionally be obtained by execution of this document before a U.S. Consul or before a local officer authorized to administer oaths whose authority is proved by a certificate from a U.S. Consul.

-2-

U.S. Rights--Sole or Joint

ASSIGNMENT

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, each undersigned inventor has sold and assigned, and by these presents hereby sells and assigns, unto

TOSHIBA MEMORY CORPORATION

1-1, Shibaura 1-chome Minato-ku, Tokyo 105-0023 Japan

(hereinafter ASSIGNEE) all right, title and interest for the United States, its territories and possessions in and to this invention relating to

SEMICONDUCTOR DEVICE AND MANUFACTURING METHOD THEREOF

as set forth in this United States Patent Application

check	executed concurrently herewith		
one	□ executed on		
	Serial No 16/105,892 filed _August 20,2018		

in and to said United States Patent Application including any and all divisions or continuations thereof and in and to any and all Letters Patent of the United States which may issue on any such application or for said invention, including any and all reissues or extensions thereof, to be held and enjoyed by said ASSIGNEE, its successors, legal representatives and assigns to the full end of the term or terms for which any and all such Letters Patent may be granted as fully and entirely as would have been held and enjoyed by the undersigned had this Assignment not been made;

Each of the undersigned hereby authorizes and requests the Commissioner of Patents and Trademarks to issue any and all such Letters Patent to said ASSIGNEE, its successors or assigns in accordance herewith;

Each of the undersigned warrants and covenants that he has the full and unencumbered right to sell and assign the interests herein sold and assigned and that he has not executed and will not execute any document or instrument in conflict herewith;

Each of the undersigned further covenants and agrees he will communicate to said ASSIGNEE, its successors, legal representatives or assigns all information known to him relating to said invention or patent application and that he will execute and deliver any papers, make all rightful oaths, testify in any legal proceedings and perform all other lawful acts deemed necessary or desirable by said ASSIGNEE, its successors, legal representatives or assigns to perfect title to said invention, to said application including divisions and continuations thereof and to any and all Letters Patent which may be granted therefor or thereon, including reissues or extensions, in said ASSIGNEE, its successors, or assigns or to assist said ASSIGNEE, its successors, legal representatives or assigns in obtaining, reissuing or enforcing Letters Patent of the United States for said invention;

Each of the undersigned hereby grants the firm of **FOLEY & LARDNER LLP** the power to insert in this Assignment any further identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for recordation of this Assignment.

-1-

NAMES AND SIGNATURES OF INVENTORS			
Name: Katsumi YAMAMOTO	Signature:	Date:	
Name: Keisuke KIKUTANI	Signature: Hearth Rikestani	Date: 12, 2018	
Name:	Signature:	Date:	
Name:	Signature:	Date:	
Name:	Signature:	Date:	
NAMES AND SIGNATURES OF WITNESSES			
Name:	Signature:	Date:	

Note: Prima facie evidence of execution may optionally be obtained by execution of this document before a U.S. Consul or before a local officer authorized to administer oaths whose authority is proved by a certificate from a U.S. Consul.

-2-

4823-1368-2233.1

RECORDED: 11/07/2018

PATENT REEL: 047438 FRAME: 0976