## 506484827 02/03/2021

## PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	ASSIGNMENT	
SEQUENCE:	6	

### **CONVEYING PARTY DATA**

Name	Execution Date
RICHARD J. PHILLIPS	08/06/2018
PARTHIV DAGGOLU	01/28/2019
ERIC MICHAEL GITLIN	10/23/2018
ROBERT W. STANDLEY	08/07/2018
HYUNGMIN LEE	08/03/2018
NAN ZHANG	10/12/2018
JAE-WOO RYU	08/02/2018

#### **RECEIVING PARTY DATA**

Name:	GLOBALWAFERS CO., LTD.
Street Address:	NO. 8. INDUSTRIAL EAST ROAD
Internal Address:	SCIENCE-BASED INDUSTRIAL PARK
City:	HSINCHU
State/Country:	TAIWAN
Postal Code:	R.O.C.

#### **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	15855466

### **CORRESPONDENCE DATA**

**Fax Number:** (314)612-2307

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:** 3146215070

**Email:** uspatents@armstrongteasdale.com

Correspondent Name: RICHARD A. SCHUTH

Address Line 1:ARMSTRONG TEASDALE LLPAddress Line 2:7700 FORSYTH BLVD., SUITE 1800

Address Line 4: ST. LOUIS, MISSOURI 63105

ATTORNEY DOCKET NUMBER: 28744-4807 (161015.1)

NAME OF SUBMITTER: RICHARD A. SCHUTH

506484827 PATENT REEL: 055131 FRAME: 0877

SIGNATURE:	/Richard A. Schuth/
DATE SIGNED:	02/03/2021
Total Attachments: 11	
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PATENT REEL: 055131 FRAME: 0878

## ASSIGNMENT

WHEREAS, We Richard J. Phillips of St. Peters, Missouri; Parthiv Daggolu of Creve Coeur, Missouri; Eric Michael Gitlin of St. Peters, Missouri; Robert W. Standley of Chesterfield, Missouri; HyungMin Lee of Chungcheongnam-do, Korea; Nan Zhang of O'Fallon, Missouri; Jae-Woo Ryu of Chesterfield, Missouri; and Soubir Basak of Chandler, Arizona have invented an improvement in the following applications:

U.S. Provisional Application Serial No. 62/439,743 Filed December 28, 2016

METHODS FOR FORMING SINGLE CRYSTAL SILICON INGOTS WITH IMPROVED RESISTIVITY CONTROL

U.S. Formal Application Serial No. 15/855,466 Filed December 27, 2017

METHODS FOR FORMING SINGLE CRYSTAL SILICON INGOTS WITH IMPROVED RESISTIVITY CONTROL

PCT Application Serial No. PCT/US2017/068632 Filed December 28, 2017

METHODS FOR FORMING SINGLE CRYSTAL SILICON INGOTS WITH IMPROVED RESISTIVITY CONTROL

AND, WHEREAS, GlobalWafers Co., Ltd., a company organized and existing under the laws of Taiwan and having its registered address at No. 8. Industrial Road 2, Science-Based Industrial Park, Hsinchu, Taiwan R.O.C. (hereinafter referred to as "ASSIGNEE") is desirous of acquiring certain rights thereunder;

NOW, THEREFORE, for one dollar and other good and valuable consideration, receipt of all of which is hereby acknowledged, we have agreed to and do hereby sell, assign and transfer unto said ASSIGNEE the entire right, title and interest in and throughout the United States of America (including its territories and dependencies) and all countries foreign thereto in and to said invention, said United States application, any other United States applications (including provisional, non-provisional, divisional, continuing, or reissue applications) based in whole or in part on said United States application or in whole or in part on said invention, any foreign applications based in whole or in part on any of the aforesaid United States applications or in whole or in part on said invention, and any and all patents (including extensions thereof) of any country

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which have been or may be granted on any of the aforesaid applications or on said invention or any part thereof;

**TO BE HELD AND ENJOYED** by said ASSIGNEE, its successors and assigns, as fully and entirely as the same would have been held and enjoyed by us had no sale and assignment of said interest been made;

AND We hereby authorize and request the Commissioner of Patents of the United States of America to issue any and all United States patents which may be granted upon said United States applications or any of them, or upon said invention or any part thereof, to said ASSIGNEE:

AND We hereby jointly and severally agree for ourselves and for our respective heirs, executors and administrators, to execute without further consideration any further lawful documents and any further assurances, and any provisional, non-provisional, divisional, continuing, reissue, or other applications for patents of any country, that may be deemed necessary by said ASSIGNEE fully to secure to said ASSIGNEE its interest as aforesaid in and to said invention or any part thereof, and in and to said several patents or any of them;

AND We hereby jointly and severally covenant for ourselves and our respective legal representatives that we have granted no right or license to make, use or sell said invention, to anyone except said ASSIGNEE, that prior to the execution of this deed our right, title and interest in said invention had not been otherwise encumbered, and that we have not executed and will not execute any instrument in conflict herewith.

Signatures begin on next page

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IN WITNESS WHEREOF, I have hereunto set my hand.
δ/4/// Date Richard J. Phillips
STATE OF Massocial ) COUNTY OF M. Charles
On this day of
Public, personally appeared Richard J. Phillips to me known to be the person described
in and who executed the foregoing assignment and acknowledged that he executed
same as his free act and deed.
IN TESTIMONY WHEREOF, I have hereunto set my hand and seal the date and
year last above written.
Notary Public
My Commission Expires:
ERIKA DAMIANI Notary Public - Notary Seal St Charles County - State of Missouri Commission Number 14917341 My Commission Expires Jul 20, 2022

01/28/2019 O parthiv Daggolu Parthiv Daggolu

STATE OF <u>Mamachumets</u>)
COUNTY OF <u>Essex</u>

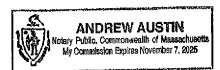
On this 28 day of January, 2019, before me, a Notary Public, personally appeared Parthiv Daggolu to me known to be the person described in and who executed the foregoing assignment and acknowledged that he executed same as his free act and deed.

IN TESTIMONY WHEREOF, I have hereunto set my hand and seal the date and year last above written.

Notary Public

My Commission Expires:

November 7, 2025



<u>/0/23/20</u>/8

Eric Gillin

STATE OF Z

COUNTY OF

On this <u></u>day of

<u> 少なわんとく</u>, 20<u>///,</u> before me, a Notary

Public, personally appeared Eric Gitlin to me known to be the person described in and who executed the foregoing assignment and acknowledged that he executed same as his free act and deed.

IN TESTIMONY WHEREOF, I have hereunto set my hand and seal the date and year last above written.

Notary Public

My Commission Expires:

ERIKA DAMIANI
Notary Seal
Notary Sublic - Notary Seal
St Charles County - State of Missouri
St Charles County - 149 17341 (
Commission Number 149 17341)
My Commission Expires Jul 20, 2022

COUNTY OF

On this  $7^{14}$  day of 4u(1), 20/8, before me, a Notary

Public, personally appeared Robert Standley to me known to be the person described in and who executed the foregoing assignment and acknowledged that he executed same as his free act and deed.

IN TESTIMONY WHEREOF, I have hereunto set my hand and seal the date and year last above written.

My Commission Expires:

ERIKA DAMIANI
Notary Public - Notary Seal
St Charles County - State of Missouri
Commission Number 14917341 My Commission Expires Jul 20, 2022

· · · · · · · · · · · · · · · · · · ·	of din
Aug. 3. 2018 Date	HyungMin Lee
STATE OF)	
COUNTY OF	
On this day of	, 20, before me, a Notary
Public, personally appeared HyungMin I	Lee to me known to be the person described in
and who executed the foregoing assigni	ment and acknowledged that he executed same
as his free act and deed.	
IN TESTIMONY WHEREOF, I ha	ive hereunto set my hand and seal the date an
year last above written.	
Notary Public	•
My Commission Expires:	
Uising Jung June Witness	
Woodin Youn A	-

10/12/2618 Date	Nan Zhang	
Date	Nan Zhang Nan Zhang	
STATE OF)		
COUNTY OF)		
On this day of	, 20, before me, a Notary	
Public, personally appeared Nan Zhang t	to me known to be the person described in an	d
who executed the foregoing assignment	and acknowledged that he executed same as	
his free act and deed.		
IN TESTIMONY WHEREOF, I have	e hereunto set my hand and seal the date an	d
year last above written.		
Notary Public		
My Commission Expires:		

ite Jae-Woo Ryu

COUNTY OF St. Charles

IN TESTIMONY WHEREOF, I have hereunto set my hand and seal the date and year last above written.

Notary Public

My Commission Expires:

ERIKA DAMIANI
Notary Public - Notary Seal
St Charles County - State of Missouri
Commission Number 14917341
My Commission Expires Jul 20, 2022

Date	Soubir Basak		
STATE OF	)		
On this	day of	, 20	, before me, a Notary
Public, personally app	eared Soubir Bas	ak to me known to	be the person described in
and who executed the	foregoing assign	ment and acknowl	edged that he executed same
as his free act and de	ed.		
IN TESTIMON	Y WHEREOF, I ha	ave hereunto set n	ny hand and seal the date and
year last above writter	ո.		
Notary Public		-	
My Commission Expir	es:		

For and on behalf of GlobalWafers Company, Ltd. Paul Markowitz Director of Intellectual Property STATE OF **COUNTY OF** \_\_\_\_, 20<u>1%</u>, before me, a Notary Public, personally appeared Paul Markowitz to me known to be the person described in and who executed the foregoing assignment and acknowledged that he executed same as his free act and deed. IN TESTIMONY WHEREOF, I have hereunto set my hand and seal the date and year last above written. ERIKA DAMIANI Notary Public - Notary Seal St Charles County - State of Missouri Commission Number 14917341 My Commission Expires Jul 20, 2022 My Commission Expires: