# 503789015 04/19/2016

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:		NEW ASSIGNMENT		
NATURE OF CONVEYAN	CE:	ASSIGNMENT		
CONVEYING PARTY DA	тл	I		
		Name	Execution Date	
MITSURU HASHIMOTO		Name	04/06/2016	
TAKASHI SONE			04/07/2016	
EIICHI NISHIMURA			04/19/2016	
KEIICHI SHIMODA			04/13/2016	
			0 11 10/2010	
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State/Country:	JAPAN			
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PROPERTY NUMBERS		Number	]	
		<b>Number</b> 15030406		
Property Type				
Property Type Application Number: CORRESPONDENCE DA		15030406		
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# ASSIGNMENT

#### Whereas, I/we, Name

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2) Takashi SONE

3) Eilchi NISHIMURA

4) Keiichi SHIMODA

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hereinafter called assignor(s), have invented certain improvements in METHOD FOR ETCHING LAVER TO BE ETCHED

and executed an application for Letters Patent of the United States of America therefor on even date herewith unless otherwise indicated below:

filed on	April 19, 2016	, Serial No.	15/030,406	; and
Whereas				· · · · · · ·
TOKYO ELECTR	ONLIMITED			
3-1 A	kasaka 5-chome,			
Mina	to-ku, Tokyo 107-6325 Japa	n		

(assignee), desires to acquire the entire right, title and interest in the application and invention, and to any United States patents to be obtained therefor;

NOW THEREFORE, be it known that, for good and valuable consideration from assignce, the receipt of which is hereby acknowledged, J/WE, as assignor(s), have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer, and set over unto the assignee, its lawful successors and assigns, MY/OUR entire right, title, and interest in and to this invention and this application, and all divisions, and continuations thereof, and all Letters Patent of the United States which may be granted thereon, and all reissues thereof, and J/WE hereby anthorize and request the Commissioner of Patents and Trademarks of the United States to issue all Letters Patent for this invention to assignee, its successors and assigns, in accordance with the terms of this Assignment;

AND, I/WE HEREBY further covenant and agree that I/WE will, without firther consideration, communicate with assignee, its successors and assigns, any facts known to ME/US respecting this invention and testify in any legal proceeding, sign all lawful papers when called upon to do so, execute and deliver all papers that may be necessary or desirable to perfect the title to this invention in said assignee, its successors and assigns, execute all divisional, continuation, and reissue applications, make all rightful oaths and generally do everything possible to aid assignee, its successors and assigns, to obtain and enforce proper patent protection for this invention in the United States, it being understood that any expense incident to the execution of such papers shall be borne by the assignee, its successors and assigns.

	INVENTORS	DATE SIGNED
1) :	M. Hanh	4/6/2016
Name :	Mitsuru HASHIMOTO	
2) :	Inbank Sone	4/17/2016
Name :	Takashi SONE	and the second sec
3):		
Name :	Eiichi NISHIMURA	······································

(Legalization not required for recording but is prima facle evidence of execution under 35 U.S.C. § 261) Page 1 of 2

> PATENT REEL: 038313 FRAME: 0265

keiich; shinodu Keiichi Shimoda 04/13/2016 4) : Name :

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PTO/AIA/02 (07-13)

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SUBSTITUTE STATEMENT IN LIEU OF AN OATH OR DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (35 U.S.C. 115(d) AND 37 CFR 1.64)					
Title of Invention	METHOD FOR ETCHING LAYER TO BE ETCHED				
This stateme	ent is directed to;				
The att	The attached application,				
OR					
United S	States application or PCT international	PCT/sapplication number	JP2014/074922	filed on,	
LEGAL NA	ME of inventor to whom this sul	bstitute statement appl	les:		
(E.g., Given	Name (first and middle (if any)) and Fi	amily Name or Surname)			
Eiichi N	ISHIMURA				
Residence (	except for a deceased or legally incapa	acitated inventor):	P		
City	ss (except for a deceased or legally incapa	State	Country	and the second	
Maning Addre	ss (except for a deceased of legally incapa	Grated inventor).			
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0.1					
City		State	Zip	Country	
I believ <del>e</del> the in the ap	above-named inventor or joint invento plication.	or to be the original inventor	or an original joint	t inventor of a claimed invention	
The above-i	dentified application was made or auth	orized to be made by me.			
I hereby acknowledge that any willful false statement made in this statement is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.					
Relationship to the inventor to whom this substitute statement applies:					
Legal Representative (for deceased or legally incapacitated inventor only),					
Assignee,					
Pe	Person to whom the inventor is under an obligation to assign,				
Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.46 is required), or					
Joint Inventor.					
		[Page 1 of 2]			

This collection of information is required by 35 U.S.C. 116 and 37 CFR 1.83. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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SUBSTITUTE STATEMENT					
Circumstances permitting execution of this substitute statement:					
Inventor is deceased,	Inventor is deceased,				
Inventor is under legal incapacity,	Inventor is under legal incapacity,				
Inventor cannot be found or reached	Inventor cannot be found or reached after diligent effort, or				
Inventor has refused to execute the oath or declaration under 37 CFR 1.63.					
If there are joint inventors, please check the	appropriate box below:				
An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) naming the entire inventive entity has been or is currently submitted.					
OR					
An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) has not been submitted. Thus, a Substitute Statement Supplemental Sheet (PTO/AIA/11 or equivalent) naming the entire inventive entity and providing inventor Information is attached. See 37 CFR 1.64(b).					
	WARNING:		· · · · · · · · · · · · · · · · · · ·		
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PERSON EXECUTING THIS SUBSTITUTE ST	ATEMENT:				
<sub>Name:</sub> Takeshi SAKUMA	· · · · · ·		Date (Optional);		
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APPLICANT NAME AND TITLE OF PERSON If the applicant is a juristic entity, list the applica					
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Applicant Name:					
Title of Person Executing This Substitute Statement: Director, Intellectual Property Department					
The signer, whose title is supplied above, is authorized to act on behalf of the applicant.					
Residence of the signer (unless provided in an application data sheet, PTO/AIA/14 or equivalent):					
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Mailing Address of the signer (unless provided in an application data sheet, PTO/AIA/14 or equivalent)					
c/o TOKYO ELECTRON LIMITED					
3-1 Akasaka 5-chome, Minato-ku					
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[Page 2 of 2]

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- A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
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## PATENT REEL: 038313 FRAME: 0269

### **RECORDED: 04/19/2016**