

## PATENT ASSIGNMENT COVER SHEET

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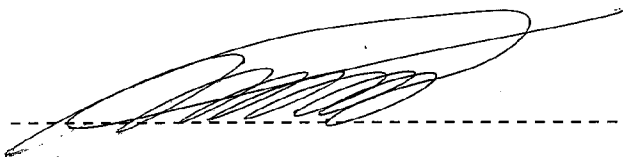
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<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT	
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<b>DATE SIGNED:</b>	03/17/2022	
<b>Total Attachments: 3</b>		
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**CERTIFICATION**

I, Mitsunobu Sato, Toranomom East Bldg, 7-13, Nishi-Shimbashi 1-chome, Minato-ku, Tokyo, Japan, do hereby certify that I am conversant with the English and Japanese languages and am a competent translator thereof, and I further certify that to the best of my knowledge and belief the attached English translation is a true and correct translation made by me.

Signed on this 7th day of March, 2022



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Mitsunobu Sato

## Invention/Device Notification

Date of Notification November 20, 2017

Proposal Control Number / Application Control Number

Proposal Reference Number

B0089B17

Responsible Department and Section: Process Technology  
Research & Development Center, Process Technology Development  
Department 2, Process Technology Group 2

## Title of the Invention

SUBSTRATE PROCESSING METHOD

## Summary of the Invention

The invention relates to high aspect ratio machining using precursor processing (metallization). In metallization on a thick mask pattern necessary for high aspect ratio machining, there is a problem that a metal concentration gradually declines and machining resistance performance degrades as the mask pattern is deeper. To solve the problem, the machining is stopped temporarily when the mask pattern is scraped off as being machined and the metal concentration gradually declines to some extent, and the mask pattern is metalized again to increase the metal concentration in the mask pattern (increase the machining resistance).

## Internal Inventors (5 inventors)

Employee No.	Name	Company	Office	Dept./Sect.	Inventor's Contribution Rate
02015510	Yusuke KASAHARA	TMC	(Yokohama)	Process Technology Research & Development Center, Process Technology Development Department 2, Process Technology Group 2	20.00%
87010110	Shinichi ITO	TMC	(Yokohama)	Process Technology Research & Development Center, Process Technology Development Department 2	20.00%
02252410	Seiji MORITA	TMC	(Yokohama)	Process Technology Research & Development Center, Process Technology Development Department 2	20.00%
03036210	Ryosuke YAMAMOTO	TMC	(Yokohama)	Process Technology Research & Development Center, Process Technology Development Department 2, Process Technology Group 2	20.00%
15703310	Ryuichi SAITO	TMC	(Yokohama)	Process Technology Research & Development Center, Process Technology Development Department 2, Process Technology Group 2	20.00%

## Consent Matters

I (Inventor/Designer) hereby agree as follows:

1. The Invention, etc. falls under an Employee Invention, etc.
2. In countries where the right to file an intellectual property application for an Employee Invention, etc. shall belong to a corresponding Inventor(s), etc. pursuant to applicable domestic laws and regulations, the Company shall succeed the right to file an intellectual property application for the Invention, etc. at the time of completion of the Invention, etc.
3. In countries where the right to file an intellectual property application for an Employee Invention, etc. shall belong to the relevant Inventor(s), etc. pursuant to the applicable domestic laws and regulations, a joint inventor(s) (designer(s)) will transfer his/her share in the right to file an intellectual property application for the Invention, etc. to his/her employer, etc.
4. I will cooperate with the Company in performing the procedures for acquiring a patent, etc. in Japan and foreign countries.
5. The inventor's contribution rate for the Invention, etc. shall be determined as specified above.

Internal Inventor(s)  
(Every sealer)

Yusuke KASAHARA, November 20, 2017  
Ryuichi SAITO, November 20, 2017  
Shinichi ITO, November 20, 2017  
Seiji MORITA, November 20, 2017  
Ryosuke YAMAMOTO, November 20, 2017

発 明 考 案 届 出 書

届出日 2017/11/20

提案管理番号／出願管理番号  
提案整理番号

B0089B17

提案部課 (P 技 C) [P 二開] (二 P G)

発明の名称

基板処理方法

発明の概要

前駆体処理（メタライズ）を用いた高アスペクト加工に関する。高アスペクト加工に必要な厚いマスクパターンへのメタライズでは、深くなるに従いメタル濃度が減衰して耐加工性能が低下するという課題に対して、加工に伴いマスクパターンが削れてメタル濃度がある程度減衰した段階で一旦加工を停止して、マスクパターンに対して再度メタライズを実施してマスクパターン中のメタル濃度を高めて（加工耐性を高めて）対加工する。

社内発明者（5名）

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同意事項

- 私（発明者・考案者）は、以下の事項に同意いたします。
- ① この発明等が職務発明等であること
  - ② 職務発明等に係る出願権が発明者等に帰属する国内法を有する国において、この発明等が完成した時点でその出願権を会社が承継すること
  - ③ 職務発明等に係る出願権が発明者等に帰属する国内法を有する国において、共同発明者（考案者）が、この発明等の出願権に係る自己の持分をその使用者等に譲渡すること
  - ④ 日本および外国において、会社が行う特許等の取得のための手続きに協力すること
  - ⑤ この発明等の発明者寄与率に関し、上記の通り決定すること

社内発明者 (全員捺印)	2017/11/20:笠原 佑介 2017/11/20:齊藤 隆一 2017/11/20:伊藤 信一 2017/11/20:森田 成二 2017/11/20:山本 亮介
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