# 507183997 03/17/2022

# PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

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Name	Execution Date
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Property Type	Number		
Application Number:	17003846		

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# **Total Attachments: 3**

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PATENT 507183997 REEL: 059298 FRAME: 0972

#### CERTIFICATION

I, Mitsunobu Sato, Toranomon 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

Mitsunobu Sato

PATENT REEL: 059298 FRAME: 0973

# Invention/Device Notification

Date of Notification November 14, 2018

Proposal Control Number / Application Control Number

Proposal Reference Number

#### B0089B18

Responsible Department and Section
(Device Technology Research & Development Center)
[Device Technology Development Department 1]
(Device Technology Group 1)

#### Title of the Invention

Magnetoresistive Element

#### Summary of the Invention

In the layered type magnetic memory including a selector and an MTJ (Magnetic Tunnel Junction), heat generation of the selector by applying voltage is liable to cause deterioration in the properties of the elements. For this reason, a heat dissipation layer is added to suppress heat generation when voltage is applied. The current proposal makes it possible to efficiently release heat by using an insulator high in heat conductivity as the heat dissipation layer.

#### Internal Inventor(s) (6 inventors)

Employee No.	Name	Company	Office	Dept./Sect.	Inventor's Contribution Rate
16003010	Taichi IGARASHI	TMC	(RDC)	(Device Technology Research & Development Center) [Device Technology Development Department 1] (Device Technology Group 1)	30.00%
06315510	Tadaomi DAIBOU	TMC	(RDC)	(Device Technology Research & Development Center) [Device Technology Development Department 1] (Device Technology Group 1)	20.00%
16610586	Junichi ITO	TMC	(RDC)	(Device Technology Research & Development Center) [Device Technology Development Department 1] (Device Technology Group 1)	20.00%
00252210	Tadashi KAI	TMC	(RDC)	(Device Technology Research & Development Center) [Device Technology Development Department 1] (Device Technology Group 1)	15.00%
13002510	Shogo ITAI	TMC	(MC)	(Device Technology Research & Development Center) [TC Technology Development] (TC III)	10.00%
92030310	Toshiyuki ENDA	TMC	(MC)	(Device Technology Research & Development Center) [TC Technology Development]	5.00%

#### 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)	November 27, 2018: Taichi IGARASHI	November 27, 2018: Shogo ITAI		
(Every Sealer)	November 27, 2018: Tadaomi DAIBOU	November 27, 2018: Toshiyuki ENDA		
	November 27, 2018: Junichi ITO			
	November 27, 2018: Tadashi KAI			

# 発明考案届出書

届出日 2018/11/14

提案管理番号/出願管理番号

提案整理番号 B0089B18

提案部課 (D技C)[D-開](-DG)

<b>ě明の名称</b>
<b>城気抵抗素子</b>

#### 発明の概要

セレクタとMTJからなる積層型磁気メモリにおいて、電圧印加によるセレクタの発熱は素子の特性劣化を引き起こす恐れがある。そこで電 圧印加時の発熱を抑えるための放熱層を加える。今回の提案では放熱層として熱伝導度の高い絶縁体を用いることで、効率的に熱を逃がす ことができる。

#### 社内発明者(6名)

171, 370,73	. (0-1)				
従業員番号	氏名	カンパニー	事業場	所属	発明者寄与率
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### 同意事項

回・記事・4月 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 よっの発明等の登田※零与率に関し、上記の通り決定すること

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

2018/11/27:甲斐

2018/11/27:五十嵐 太一 2018/11/27:板井 翔吾 2018/11/27:大坊 忠臣 2018/11/27:遠田 利之 2018/11/27:伊藤 順一 社内発明者 (全員捺印)

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