UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD
MICRON TECHNOLOGY, INC., AND MICRON MEMORY JAPAN, INC., Petitioners
v.
MASSACHUSETTS INSTITUTE OF TECHNOLOGY, Patent Owner
Case IPR2015-01087 U.S. Patent No. 6,057,221

Patent Owner's Preliminary Response to Petition for Inter Partes Review of U.S. Patent No. 6,057,221



## TABLE OF CONTENTS

INTR	CODUCTION1		
BAC	KGROUND5		
I.	Technology Background5		
A.	Overview Of Laser Fuse Technology5		
B.	Thermal Resistance And Thermal Conductivity7		
II.	Overview Of The '221 Patent8		
CLAI	IM CONSTRUCTION17		
REAS	SONS FOR DENYING THE PETITION17		
I.	The Petition Is Time-Barred Under § 315(b) Because MIT Served Infringement Complaints On The Patent Over Two Years Ago		
II.	The Petition Should Be Declined Under § 325(d) Because It Is Duplicative Of The Reexamination Review Already Made By The Office22		
III.	The Petition Should Be Declined Under § 314(a) Because It Is Unlikely To Prevail With Respect To Any Challenged Claim		
A.	Claims 3-4, 6-8, 23, 25-26, And 28 Are Not Anticipated By Koyou24		
1	1. Principles of anticipation24		
2	2. Overview of Koyou26		
3	3. Koyou fails to disclose "the width of the cut-link pad is at least ten percent greater than the width of each of the first and second electrically-conductive lines" (Claims 3-4, 6-8, 23, 25)28		
4	4. Koyou fails to disclose "the cut-link pad has substantially less thermal resistance per unit length than each of the first and second electrically conductive lines" (Claims 3-4, 6-8, 23, 25-26, 28)33		
	5. Koyou does not anticipate any dependent claims of the '221 Patent (Claims 6, 7, 8, 23, 25)		
Ć	6. Koyou does not anticipate claims 26 and 2843		
В.	3. Claims 14, 15, And 29 Are Not Obvious Over Wada In View Of Lou (Ground 2) Or Billig (Ground 3)		
1	1. The petition should be denied for the same reasons that the CRU correctly allowed claims 14, 15, and 29		
2	2. There is no reason to combine Lou or Billig with either Wada or Koyou		



3.	Wada and the asserted combinations do not render obvious claims 14, 15, or 29 because they do not disclose or render obvious "the cut-
	link pad is covered with a passivative layer that is harder than the substrate"49
C.	Claims 3-4, 6-8, 23, 25-26, And 28 Are Not Obvious Over Koyou In View Of Wada (Ground 4)
1.	The Bernstein declaration correctly supports the PTO's determination that no challenged claim is unpatentable51
2.	A skilled artisan would not find it obvious to combine Koyou and Wada54
D.	Claims 13, 17-18, 21-22, 24, 27, And 30 Are Not Obvious Over Koyou In View Of Lou (Ground 5), In View Of Billig (Ground 6), Or In View Of Wada In Further View Of Lou (Ground 7) Or Billig (Ground 8)59
CONCLI	ICION



### TABLE OF EXHIBITS

Exhibit #	Description
2001	Submission of Reorganization Claim to Tokyo District Court (October 31, 2012)
2002	Reorganization Claim Certificate of Receipt from Tokyo District Court (August 10, 2015)
2003	English Translation of Reorganization Claim Certification of Receipt Request (August 10, 2015)
2004	Petition to Tokyo District Court for Claim Assessment (December 22, 2012)
2005	Trustee/MMJ Acknowledgement of Formal Service of the Petition for Claim Assessment (December 26, 2012) (and translations)
2006	Tokyo District Court Certificate of Receipt of Petition for Claim Assessment (August 10, 2015)
2007	English Translation of Certificate of Receipt of Petition for Claim Assessment Request (August 10, 2015)
2008	Ex Parte Reexamination Application No. 90/011,607
2009	Elpida News Release: Notice on Petition for Commencement of Corporate Reorganization Proceedings and Uncollectibility of Debts of Our Subsidiary (February 27, 2012)
2010	Opinion Staying Litigation in the United States, <i>In re Elpida Memory</i> , <i>Inc.</i> , Case No. 12-10947 (Bankr. D. Del.)(November 20, 2012)
2011	Tokyo District Court Notice of Result of Investigation (November 14, 2012)
2012	Tokyo District Court Decision Regarding Corporate Reorganization (October 20, 2014)
2013	Micron Memory Japan, Inc's Answer to Amended Complaint, <i>MIT v. Micron</i> , Case No. 1:15cv10374 FDS (U.S.D.M) (May 14, 2015)
2014	R.G. Sterne et al., "Reexamination Practice with Concurrent District Court Litigation or Section 337 USITC Investigations," 2011
2015	Definition of "Plan View", available at http://www.merriam-



	webster.com
2016	S. Wolf et al., "Silicon Processing for the VLSI Era, Volume 1: Process Technology," Second Edition, Lattice Press (2000)
2017	United States Patent No. 6,218,733
2018	Conductive Materials or Metal Conductivity, available at http://www.tibtech.com/conductivity.php
2019	K. Kawabata and T. Muto, "Electrical Properties of Titanium Nitride Thin Films Deposited by Reactive Sputtering," Electrocomponent Science and Technology, 1981, Vol. 8, p. 249
2020	V. Mortet et al., "Titanium Nitride Grown by Sputtering for Contacts on Boron-Doped Diamond," Plasma Process. Polym. 2007, 4, S139-S143
2021	Titanium nitride, available at http://en.wikipedia.org/wiki/Titanium_nitride
2022	Titanium – Comparison of Properties with Other Metals, available at http://www.amazon.com/article.aspx?ArticleID=1298
2023	S. Wolf, "Microchip Manufacturing," Lattice Press (2004)
2024	Resistivity, Conductivity and Temperature Coefficients for some Common Materials, available at http://www.engineeringtoolbox.com/resistivity-conductivity-d_418.html



# DOCKET A L A R M

# Explore Litigation Insights



Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

# **Real-Time Litigation Alerts**



Keep your litigation team up-to-date with **real-time** alerts and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

## **Advanced Docket Research**



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

### **Analytics At Your Fingertips**



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

#### API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

#### **LAW FIRMS**

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

#### **FINANCIAL INSTITUTIONS**

Litigation and bankruptcy checks for companies and debtors.

#### **E-DISCOVERY AND LEGAL VENDORS**

Sync your system to PACER to automate legal marketing.

