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

PETITION FOR INTER PARTES REVIEW

Mail Stop PATENT BOARD
Patent Trial and Appeal Board
U.S. Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
Submitted Electronically via the Patent Review Processing System



TABLE OF CONTENTS

I.	MANDATORY NOTICES UNDER 37 C.F.R. § 42.8(A)(1)					
	A.		ed Matters under 37 C.F.R. § 42.8(b)(2)			
	B.	Real I	Party-In-Interest under 37 C.F.R. § 42.8(b)(1)	1		
	C.		sel and Service Information			
II.	PAYN	MENT (OF FEES — 37 C.F.R. § 42.103	2		
III.	TECH	CHNOLOGY BACKGROUND2				
IV.	REQUIREMENTS FOR IPR UNDER 37 C.F.R. §§ 42.104					
	A.	Grounds for Standing Under 37 C.F.R. § 42.104(a)				
	B.	Identification of Challenge Under 37 C.F.R. § 42.104(b)				
	C.	Level of Ordinary Skill in the Art				
	D.	Claim Construction under 37 C.F.R. §§ 42.104(b)(3)				
V.	SUM	MARY	OF THE '221 PATENT	8		
VI.	THE (CHALLENGED CLAIMS 10				
VII.	PRIO	OR PROSECUTION12				
VIII.						
	A. Ground 1: Claims 3-4, 6-8, 23, 25-26 and 28 Are Anticipated Under § 102(a) by Koyou					
		1.	The disclosure of Koyou			
		2.	Koyou anticipates independent claim 3	17		
		3.	Koyou anticipates dependent claims 4, 6-8, 23 and 25	26		
		4.	Koyou anticipates independent claim 26 and dependent claim 28			
	B. Grounds 2 and 3: Claims 14-15 and 29 are Obvious under § 103(a) over Wada either in view of Lou (Ground 2) or in view Billig (Ground 3), Combined with General Knowledge in the Art					
		1.	The disclosure of Wada			
		2.	The disclosure of Lou			
		3.	The disclosure of Billig			
		4.	Wada and either of Lou or Billig, combined with general knowledge in the art, disclose every limitation of claim 14			



	5.	Wada and either of Lou or Billig, combined with general knowledge in the art, disclose every limitation of dependent claims 15 and 29	41
	6.	A person of ordinary skill in the art would have been motivated to combine the teachings of Wada, either of Lou or Billig, and the general knowledge in the art, thereby rendering claims 14, 15 and 29 obvious	42
	7.	Patent Owner's reexamination arguments do not overcome unpatentability over Wada, either of Lou or Billig, and the general knowledge in the art	44
C.	103(a)	nd 4: Claims 3-4, 6-8, 23, 25-26 and 28 are Obvious under § 6) over Koyou in View of Wada, Combined with General ledge in the Art	46
	1.	Koyou and Wada, combined with general knowledge in the art, disclose every limitation of claims 3-4, 6-8, 23, 25-26, and 28	47
	2.	Motivation to combine Koyou, Wada, and the general knowledge in the field is found in the references themselves and in the general prior art	50
	3.	Patent Owner's reexamination arguments do not overcome unpatentability over Koyou and Wada	52
D.	Obvio	nds 5 and 6: Claims 13, 17-18, 21-22, 24, 27, and 30 are ous under § 103(a) over Koyou either in view of Lou (Ground n view of Billig (Ground 6)	57
E.	Grounds 7 and 8: Claims 13, 17-18, 21-22, 24, 27, and 30 are Obvious under § 103(a) over Koyou in view of Wada and in further view of either Lou (Ground 7) or Billig (Ground 8), Combined with General Knowledge in the Art		
CONC		ON	
COM	しいいいし	/1 ₹	



IX.

TABLE OF EXHIBITS

Exhibit #	Exhibit Description (Citation is to page, column, or paragraph in original, except for Exhibits 1009, for which citation is to inserted page number)
1001	Declaration of Dr. Michael Thomas
1002	Curriculum Vitae of Dr. Michael Thomas
1003	U.S. Patent No. 6,057,221
1004	File History for U.S. Patent No. 6,057,221
1005	The New IEEE Standard Dictionary of Electrical and Electronic Terms, Fifth Ed., Institute of Electrical and Electronics Engineers, Inc., New York (1993)
1006	Japan Pat. Appl. Publ. No. 8-213465 to Koyou (including English translation and supporting declaration)
1007	Japan Pat. Appl. Publ. No. 6-244285 to Wada, et al. (including English translation and supporting declaration)
1008	U.S. Patent No. 5,729,042 to Lou et al.
1009	U.S. Patent Application No. 514,800 filed August 14, 1995 (to which U.S. Pat. No. 5,729,042 claims priority)
1010	U.S. Patent No. 5,025,300 to Billig et al.
1011	Ex Parte Reexamination Application No. 90/011,607, Request for Ex Parte Reexamination filed March 30, 2011
1012	Ex Parte Reexamination Application No. 90/011,607, Corrected Preamendment under 35 C.F.R. 1.530 filed April 14, 2011
1013	Ex Parte Reexamination Application No. 90/011,607, Order Granting Request for Ex Parte Reexamination filed June 23, 2011
1014	Ex Parte Reexamination Application No. 90/011,607, Non-Final Office Action of January 26, 2012



1015	Ex Parte Reexamination Application No. 90/011,607, Request for Reconsideration filed March 26, 2012
1016	Ex Parte Reexamination Application No. 90/011,607, Declaration of Dr. Bernstein filed March 26, 2012 (including exhibits)
1017	Ex Parte Reexamination Application No. 90/011,607, Notice of Intent to Issue Ex Parte Reexamination Certificate of July 11, 2012
1018	"Thermal Conductivity of Metals," The Engineering ToolBox, http://www.engineeringtoolbox.com/thermal-conductivity-metals-d_858.html (last visited April 1, 2015)
1019	Pierson, Handbook of Refractory Carbides and Nitrides: Properties, Characteristics, Processing, and Applications, Noyes Publications (1996)
1020	U.S. Patent No. 5,872,389 to Nishimura et al.
1021	U.S. Patent No. 5,675,174 to Nakajima
1022	U.S. Patent No. 5,538,924 to Chen
1023	U.S. Patent No. 5,300,461 to Ting
1024	U.S. Patent No. 5,729,041 to Yoo
1025	U.S. Patent No. 5,747,869 to Prall
1026	Wilson et al., Handbook of Multilevel Metallization For Integrated Circuits: Materials, Technology, and Applications, Noyes Publications (1993)
1027	Wolf, Silicon Processing for the VLSI ERA Volume 2: Process Integration, Lattice Press, Sunset CA (1990)
1028	Construction Analyses of the Samsung KM44C4000J-7 16 Megabit DRAM, published by Integrated Circuit Engineering, Scottsdale AZ, Report No. SCA 9311-3001 (available at http://smithsonianchips.si.edu/ice/cd/9311_300.pdf)
1029	Construction Analyses of the Lattice ispLSI2032-180L CPLD, published by Integrated Circuit Engineering, Scottsdale AZ, Report No. SCA 9712-573 (available at http://smithsonianchips.si.edu/ice/cd/9712_573.pdf)



DOCKET

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.

