

DOCKET NO.: 2003195-00123US1

Filed By: David L. Cavanaugh, Reg. No. 36,476
Dominic E. Massa, Reg. No. 44,905
Michael H. Smith, Reg. No. 71,190
1875 Pennsylvania Ave. NW
Washington, DC 20006
Tel: (202) 663-6000
Email: David.Cavanaugh@wilmerhale.com
Dominic.Massa@wilmerhale.com
MichaelH.Smith@wilmerhale.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LTD.
Petitioner

v.

GODO KAISHA IP BRIDGE 1
Patent Owner.

Case IPR2017-01841

**PETITION FOR *INTER PARTES* REVIEW OF
U.S. PATENT NO. 7,893,501
CLAIMS 1, 4, 7, 9-11, 14, 16-18, and 23-25 (Petition #1)**

TABLE OF CONTENTS

	<u>Page</u>
I. INTRODUCTION	1
II. MANDATORY NOTICES	2
A. Real Parties-in-Interest	2
B. Related Matters.....	2
C. Counsel	2
D. Service Information	3
E. Fee for Inter Partes Review	3
III. CERTIFICATION OF GROUNDS FOR STANDING	3
IV. OVERVIEW OF CHALLENGE AND RELIEF REQUESTED	4
A. Grounds for Challenge	4
B. Prior Art Patents and Printed Publications Relied Upon	4
C. Relief Requested.....	5
V. PERSON OF ORDINARY SKILL IN THE ART	5
VI. TECHNOLOGY BACKGROUND.....	6
VII. OVERVIEW OF THE '501 PATENT	14
A. Priority Date of the '501 Patent.....	19
B. Summary of the Prosecution History	19
VIII. CLAIM CONSTRUCTION	21
IX. GROUNDS FOR FINDING THE CHALLENGED CLAIMS INVALID...21	
A. Ground 1: Claims 1, 4, 7, 9-11, 14, 16-18, and 23-25 are rendered obvious by Igarashi in view of Woerlee	21
1. Independent Claim 1	22
2. Dependent Claim 4	46
3. Dependent Claim 7	48
4. Dependent Claim 9	50
5. Dependent Claim 10	54
6. Dependent Claim 11	65
7. Dependent Claim 14	67
8. Dependent Claim 16	68
9. Dependent Claim 17	69

10.	Dependent Claim 18	70
11.	Dependent Claim 23	72
12.	Dependent Claim 24	74
13.	Dependent Claim 25	75
X.	CONCLUSION.....	78

I. INTRODUCTION

Petitioner Taiwan Semiconductor Manufacturing Company Ltd.

(“Petitioner”) respectfully requests *inter partes* review (“IPR”) of claims 1, 4, 7, 9-11, 14, 16-18, and 23-25 of U.S. Patent No. 7,893,501 (“the ’501 patent”) (Ex-1001).

The ’501 patent claims a conventional MISFET device. The limitations of claim 1 (the sole independent claim) are directed to features that were standard to many, if not all, MISFET devices – an active region made of a semiconductor substrate, a gate insulating film, a gate electrode, source/drain regions, and a silicon nitride film.

Applicant obtained allowance of the claims after multiple rejections by amending claim 1 to require that the gate electrode protrude upward from the silicon nitride film. The Examiner’s reason for allowance stated that the protruding gate electrode was not in the “prior art of record.” However, the Examiner did not have the benefit of references like U.S. Patent Publication No. 2002/0145156 to Igarashi et al. (“Igarashi,” (Ex-1004)) and U.S. Patent No. 5,960,270 to Misra et al. (“Misra,” (Ex-1005)), which are two examples of MISFETs with a protruding gate electrode.

There was nothing novel about having a protruding gate electrode. The specification of ’501 patent does not even mention this feature, let alone identify

any purported advantages. Moreover, MISFETs with a protruding gate electrode are disclosed in prior art references such as Igarashi and Misra. Claim 1 thus recites nothing more than a conventional MISFET with widely used features.

The dependent claims merely recite conventional aspects of MISFETs that are disclosed and rendered obvious by the prior art – e.g., the choice of gate electrode material and the inclusion of standard structures like thin films, interlevel insulating films, and sidewalls.

Each of the challenged claims is therefore unpatentable.

II. MANDATORY NOTICES

A. Real Parties-in-Interest

Taiwan Semiconductor Manufacturing Company Ltd. is the real party-in-interest.

B. Related Matters

Petitioner is filing three other *inter partes* review petitions challenging claims of the '501 patent. The following litigation would affect or be affected by a decision in this proceeding: *Godo Kaisha IP Bridge 1 v. Xilinx, Inc.*, Case No. 2:17-cv-00100 (E.D. Tex.).

C. Counsel

Lead Counsel: David L. Cavanaugh (Registration No. 36,476)

Backup Counsel: Dominic E. Massa (Registration No. 44,905)

Backup Counsel: Michael H. Smith (Registration No. 71,190)

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.