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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 IPR2017-01843

**PETITION FOR *INTER PARTES* REVIEW OF
U.S. PATENT NO. 7,893,501
CLAIMS 1, 4-5, 7, 9-11, 15-18, and 23-25 (Petition #3)**

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	2
E. Fee for Inter Partes Review	3
III. CERTIFICATION OF GROUNDS FOR STANDING	3
IV. OVERVIEW OF CHALLENGE AND RELIEF REQUESTED	3
A. Grounds for Challenge	4
B. Prior Art Patents and Printed Publications Relied Upon	4
C. Relief Requested	4
V. PERSON OF ORDINARY SKILL IN THE ART	4
VI. TECHNOLOGY BACKGROUND	5
VII. OVERVIEW OF THE '501 PATENT	8
A. Priority Date of the '501 Patent	15
B. Summary of the Prosecution History	15
VIII. CLAIM CONSTRUCTION	17
IX. GROUNDS FOR FINDING THE CHALLENGED CLAIMS INVALID	18
A. Ground 1: Claims 1, 4-5, 7, 9-11, 15-18, and 23-25 are rendered obvious by Misra in view of Tsai	18
1. Independent Claim 1	18
2. Dependent Claim 4	44
3. Dependent Claim 5	45
4. Dependent Claim 7	51
5. Dependent Claim 9	53
6. Dependent Claim 10	55
7. Dependent Claim 11	57
8. Dependent Claim 15	59
9. Dependent Claim 16	60

10.	Dependent Claim 17	61
11.	Dependent Claim 18	63
12.	Dependent Claim 23	65
13.	Dependent Claim 24	67
14.	Dependent Claim 25	70
X.	CONCLUSION	72

I. INTRODUCTION

Petitioner Taiwan Semiconductor Manufacturing Company Ltd.

(“Petitioner”) respectfully requests *inter partes* review (“IPR”) of claims 1, 4-5, 7, 9-11, 15-18, and 23-25 of U.S. Patent No. 7,893,501 (“the ’501 patent”) (Ex-1201).

The ’501 patent claims a conventional MISFET device. The claim 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 the protruding gate electrode was not in the “prior art of record.” However, the Examiner did not have the benefit of references Misra (Ex-1204) and Igarashi (Ex-1207), 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 Misra and Igarashi. 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 the 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

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