

Filed on behalf of Godo Kaisha IP Bridge 1

By: Michael J. Fink (mfink@gbpatent.com)
Greenblum & Bernstein, P.L.C.
1950 Roland Clarke Place
Reston, Virginia 20191
Tel: (703) 716-1191
Fax: (703) 716-1180

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED,
Petitioner,

v.

GODO KAISHA IP BRIDGE 1,
Patent Owner.

Case IPR2016-01249
U.S. Patent No. 6,538,324

PATENT OWNER'S RESPONSE

Mail Stop PATENT BOARD, PTAB
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

TABLE OF CONTENTS

	<i>Page</i>
TABLE OF AUTHORITIES	iv
PATENT OWNERS' EXHIBIT LIST	vii
I. INTRODUCTION	1
II. STATEMENT OF MATERIAL FACTS IN DISPUTE	1
III. STATEMENT OF RELIEF REQUESTED.....	1
IV. BACKGROUND	1
V. THE '324 PATENT	3
VI. CLAIM CONSTRUCTION	8
A. Claims Terms Are To Be Given Their Broadest Reasonable Interpretation In Light Of The Specification	8
B. The Board Stated “No Express Construction Is Necessary”	10
C. The Term “Composed” As Recited In Claims 1 and 5 Should Be Construed To Mean “Consisting Essentially Of.”	11
D. “First Film Being Composed Of Crystalline Metal Containing Nitrogen Therein” Should Be Construed To Mean “A First Film Consisting Essentially Of A Mixture Of Crystalline Or Polycrystalline Metal With Nitrogen Throughout.”.....	13
E. “Second Film Being Composed Of Amorphous Metal Nitride” Should Be Construed To Mean “A Second Film Consisting Essentially Of A Non-crystalline Metal Nitride.”.....	15
F. Petitioner’s Expert’s Use Of The Disputed Claim Terms	17
G. Level Of Ordinary Skill	18
VII. OBVIOUSNESS.....	18
VIII. ARGUMENT.....	21

A.	Summary Of Argument.....	21
B.	Prior Art.....	22
1.	U.S. Patent No. 6,887,353 (“ <i>Ding</i> ”).....	23
2.	U.S. Patent No. 5,893,752 (“ <i>Zhang</i> ”).....	27
C.	Independent Claims 1 And 5 Are Patentable Over <i>Ding</i> In View Of <i>Zhang</i>	31
1.	<i>Ding</i> And <i>Zhang</i> Both Teach A Layer Of Pure Metal Over A Layer Of Metal Nitride.....	31
2.	A PHOSITA Would Not Have Modified <i>Ding</i> In View Of <i>Zhang</i> To Add Nitrogen To <i>Ding</i> ’s Pure Tantalum Layer	38
3.	<i>Ding</i> And <i>Zhang</i> Disclose Similar Sputter-Deposition Techniques.....	40
4.	The Petition Fails To Establish That <i>Ding</i> In View Of <i>Zhang</i> Renders Obvious A Film Consisting Essentially Of A Mixture Of Crystalline Metal With Nitrogen Throughout	44
D.	The Other Exhibits Cited In The Petition Would Not Have Motivated A PHOSITA To Modify <i>Ding</i> In View Of <i>Zhang</i> To Have A “First Film Being Composed Of Crystalline Metal Containing Nitrogen Therein”.....	46
1.	The “Predictable Advantages” Asserted By Petitioner Would Not Have Motivated A PHOSITA To Modify <i>Ding</i> In View Of <i>Zhang</i> To Arrive At The Claimed Invention.....	47
a.	A PHOSITA would not have added nitrogen to <i>Ding</i> ’s layer of pure tantalum because it would not be more easily removable by polishing	47
b.	A PHOSITA would not have added nitrogen to <i>Ding</i> ’s layer of pure tantalum to block grain boundary diffusion paths.....	49

c.	A PHOSITA would not have added nitrogen to <i>Ding</i> 's layer of pure tantalum to reduce resistivity	50
2.	A PHOSITA Modifying <i>Ding</i> In View Of <i>Zhang</i> By Applying Known Techniques To Yield Predictable Results Would Not Render The Challenged Claims Unpatentable.....	52
E.	Dependent Claims 2, 3, 6, and 7 Are Patentable Over <i>Ding</i> In View Of <i>Zhang</i>	54
F.	Dependent Claim 9 Is Patentable Over <i>Ding</i> In View Of <i>Zhang</i>	54
IX.	CONCLUSION	55

TABLE OF AUTHORITIES

	<i>Page(s)</i>
CASES	
<i>AFG Industries, Inc. v. Cardinal IG Company</i> , 239 F.3d 1239, 57 USPQ2d 1776 (Fed. Cir. 2001).....	12, 15
<i>ATD Corp. v. Lydall, Inc.</i> , 159 F.3d 534 (Fed. Cir. 1998).....	19
<i>Atlas Powder v. E.I. duPont de Nemours & Co.</i> , 750 F.2d 1569 (Fed. Cir. 1984).....	13
<i>Belden Inc. v. Berk-Tek LLC</i> , 805 F.3d 1064 (Fed. Cir. 2015).....	11
<i>Corning Inc. v. DSM IP Assets B.V.</i> , No. IPR2013-00043, Paper 14 (P.T.A.B. May 13, 2013)	10
<i>Cuozzo Speed Techs. LLC v. Lee</i> , 136 S. Ct. 2131 (2016).....	9
<i>Epistar, Everlight, and Lite-On v. Trustees Of Boston University</i> , IPR2013-00298, Paper 18 (P.T.A.B. November 15, 2013).....	45
<i>Graham v. John Deere Co.</i> , 383 U.S. 1 (1966).....	18
<i>Grain Processing Corp. v. Am.-Maize Prods. Co.</i> , 840 F.2d 902 (Fed. Cir. 1988).....	19
<i>In re Bertsch</i> , 132 F.2d 1014 (CCPA 1942)	12
<i>In re Fritch</i> , 972 F.2d 1260 (Fed. Cir. 1992).....	19
<i>In re Garnero</i> , 412 F.2d 276 (C.C.P.A. 1969).....	12
<i>In re Herz</i> , 537 F.2d 549 (CCPA 1976)	12, 15

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.