

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

FUJITSU SEMICONDUCTOR LIMITED,
FUJITSU SEMICONDUCTOR AMERICA, INC.,
ADVANCED MICRO DEVICES, INC., RENESAS ELECTRONICS
CORPORATION, RENESAS ELECTRONICS AMERICA INC.,
GLOBALFOUNDRIES U.S., INC., GLOBALFOUNDRIES DRESDEN
MODULE ONE LLC & CO. KG, GLOBALFOUNDRIES DRESDEN
MODULE TWO LLC & CO. KG, TOSHIBA AMERICA ELECTRONIC
COMPONENTS, INC., TOSHIBA AMERICA INC., TOSHIBA
AMERICA INFORMATION SYSTEMS, INC.,
TOSHIBA CORPORATION, and
THE GILLETTE COMPANY,
Petitioners,

v.

ZOND, LLC,
Patent Owner

IPR2014-00782
Patent 7,147,759

PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE

TABLE OF CONTENTS

TABLE OF AUTHORITIES iv

PETITIONER’S EXHIBIT LISTv

I. INTRODUCTION1

II. CLAIM CONSTRUCTION1

 A. “weakly-ionized plasma” and “strongly-ionized plasma” 1

 B. “multi-step ionization process” 2

 C. “without forming an arc” 2

III. RESPONSE TO ARGUMENTS3

 A. Zond’s Arguments are Based on a Flawed Premise That Ignores the
 Basic Teachings of Kudryavtsev 3

 B. Zond Improperly Confounds the Embodiments of Wang 4

 C. A person of ordinary skill in the art would have combined Wang and
 Kudryavtsev..... 6

 D. Wang in view of Kudryavtsev teaches “an amplitude and a rise time of
 the voltage pulse being chosen to increase an excitation rate of ground
 state atoms that are present in the weakly-ionized plasma to create a
 multi-step ionization process that generates a strongly-ionized plasma”
 recited in claim 20. 10

 E. Wang in view of Kudryavtsev teaches a “multi-step ionization process
 comprising exciting the ground state atoms to generate excited atoms,
 and then ionizing the excited atoms within the weakly-ionized plasma
 without forming an arc discharge” recited in claim 20. 15

F. Wang in view of Kudryavtsev teaches a “applying the electric field comprises applying a substantially uniform electric field” recited in claim 22 and “selecting at least one of a pulse amplitude and a pulse width of the electrical pulse that causes the strongly-ionized plasma to be substantially uniform in an area adjacent to a surface of the sputtering target” recited in claim 31. 18

G. Wang in view of Kudryavtsev teaches “the ions in the strongly-ionized plasma impact the surface of the sputtering target in a substantially uniform manner” recited in claim 30..... 22

IV. Conclusion23

Certificate of Service24

TABLE OF AUTHORITIES

Cases

In re Mouttet, 686 F.3d 1322, 1332 (Fed. Cir. 2012)5

Rules

37 C.F.R. § 42.23 1

PETITIONER'S EXHIBIT LIST

May 4, 2015

Exhibit	Description
1301	U.S. Patent No. 7,147,759
1302	Kortshagen Declaration
1303	D.V. Mozgrin, <i>et al</i> , <u>High-Current Low-Pressure Quasi-Stationary Discharge in a Magnetic Field: Experimental Research</u> , Plasma Physics Reports, Vol. 21, No. 5, pp. 400-409, 1995 ("Mozgrin")
1304	A. A. Kudryavtsev and V. N. Skerbov, <u>Ionization relaxation in a plasma produced by a pulsed inert-gas discharge</u> , Sov. Phys. Tech. Phys. 28(1) pp. 30-35, January 1983 ("Kudryavtsev")
1305	U.S. Pat. No. 6,413,382 ("Wang")
1306	Plasma Etching: An Introduction, by Manos and Flamm, pp. 185-258, Academic Press (1989) ("Manos")
1307	File History for U.S. Pat. No. 7,147,759, Response of June 14, 2004 ("06/14/04 Response")
1308	File History for U.S. Pat. No. 7,147,759, Office Action of August 30, 2004 ("08/30/04 Office Action")
1309	File History for U.S. Pat. No. 7,147,759, Response of February 24, 2005 ("02/24/05 Response")
1310	File History for U.S. Pat. No. 7,147,759, Office Action of May 27, 2005, ("05/27/05 Office Action")
1311	File History for U.S. Pat. No. 7,147,759, Request for Continued Examination of October 27, 2005 ("10/27/05 RCE")
1312	File History for U.S. Pat. No. 7,147,759, Office Action of January 11,

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