

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY, LTD.,
TSMC NORTH AMERICA CORPORATION, FUJITSU SEMICONDUCTOR
LIMITED, FUJITSU SEMICONDUCTOR AMERICA, INC., ADVANCED
MICRO DEVICES, INC., RENESAS ELECTRONICS CORPORATION,
RENEASAS 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

Case IPR2014-00802¹

Patent 7,811,421 B2

Claims 9, 14, 21, 26, 35, and 37

PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE

¹Cases IPR2014-00848, IPR2014-00992, and IPR2014-01071 have been joined with the instant proceeding.

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 B. Wang discloses all the limitations of independent claims 1, 17, 34, 46,
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 1. Wang teaches a pulse for creating a weakly-ionized plasma and
 then a strongly-ionized plasma from the weakly-ionized plasma
 without arcing.8

 i. Wang discloses “creating a weakly-ionized plasma and then a
 strongly-ionized plasma from the weakly-ionized
 plasma without arcing”9

 ii. Wang discloses a “pulse”10

 2. Wang teaches the generation of a voltage pulse whose
 amplitude, duration, and rise time are chosen to increase ion
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 3. Wang discloses the limitations of all independent claims.15

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PETITIONER'S EXHIBIT LIST

May 1, 2015

Exhibit	Description
1201	U.S. Patent No. 7,811,421 (“421 Patent”)
1202	Kortshagen Declaration (“Kortshagen Decl.”)
1203	D.V. Mozgrin, et al, <u>High-Current Low-Pressure Quasi-Stationary Discharge in a Magnetic Field: Experimental Research</u> , Plasma Physics Reports, Vol. 21, No. 5, 1995 (“Mozgrin”)
1204	U.S. Patent No. 6,413,382 (“Wang”)
1205	U.S. Patent No. 6,190,512 (“Lantsman”)
1206	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”)
1207	Certified Translation of D.V. Mozgrin, <u>High-Current Low-Pressure Quasi-Stationary Discharge in a Magnetic Field: Experimental Research</u> , Thesis at Moscow Engineering Physics Institute, 1994 (“Mozgrin Thesis”)
1208	Mozgrin Thesis (Original Russian)
1209	Catalogue Entry at the Russian State Library for the Mozgrin Thesis
1210	WO 02/103078 A1 (“Kouznetsov”)
1211	U.S. Patent No. 7,147,759 (the “759 Patent”)
1212	File History for U.S. Pat. No. 7, 147,759 , Response of May 2, 2006 (“05/02/06 Resp. of ‘759 Patent file history”)
1213	Plasma Etching: An Introduction, by Manos and Flamm, Academic Press (1989) (“Manos”)

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