

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GLOBALFOUNDRIES U.S., INC., GLOBALFOUNDRIES DRESDEN
MODULE ONE LLC & CO. KG, and GLOBALFOUNDRIES DRESDEN
MODULE TWO LLC & CO. KG,
Petitioners,

v.

ZOND, LLC,
Patent Owner.

Case IPR2014-01073
Patent 6,805,779 B2

Before KEVIN F. TURNER, DEBRA K. STEPHENS, JONI Y. CHANG,
SUSAN L.C. MITCHELL, and JENNIFER M. MEYER,
Administrative Patent Judges.

CHANG, *Administrative Patent Judge.*

DECISION
Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

GLOBALFOUNDRIES U.S., Inc., GLOBALFOUNDRIES Dresden Module One LLC & Co. KG, GLOBALFOUNDRIES Dresden Module Two LLC & Co. KG (collectively, “GlobalFoundries”) filed a Revised Petition requesting *inter partes* review of claims 1–4, 10–15, 17, 18, 24–27, and 29 of U.S. Patent No. 6,805,779 B2 (“the ’779 patent”). Paper 4 (“Pet.”). Zond, LLC (“Zond”) filed a Preliminary Response. Paper 9 (“Prelim. Resp.”).

We have jurisdiction under 35 U.S.C. § 314. The standard for instituting an *inter partes* review is set forth in 35 U.S.C. § 314(a), which provides:

THRESHOLD.—The Director may not authorize an *inter partes* review to be instituted unless the Director determines that the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.

Upon consideration of the Petition and Preliminary Response, we conclude that the information presented in the Petition demonstrates that there is a reasonable likelihood that GlobalFoundries would prevail in challenging claims 1–4, 10–15, 17, 18, 24–27, and 29 as unpatentable under 35 U.S.C. § 103(a). Pursuant to 35 U.S.C. § 314, we hereby authorize an *inter partes* review to be instituted as to claims 1–4, 10–15, 17, 18, 24–27, and 29 of the ’779 patent.

A. Related Matters

GlobalFoundries indicates that the '779 patent was asserted in several related district court proceedings, including *Zond, LLC v. Advanced Micro Devices, Inc.*, No.1:13-cv-11577-DPW (D. Mass.). Pet. 1 (citing Ex. 1013). GlobalFoundries also identifies other petitions for *inter partes* review that are related to this proceeding. *Id.*

B. The '779 patent

The '779 patent relates to a method and a system for generating a plasma with a multi-step ionization process. Ex. 1001, Abs. For instance, Figure 2 of the '779 patent, reproduced below, illustrates a cross-sectional view of a plasma generating apparatus:

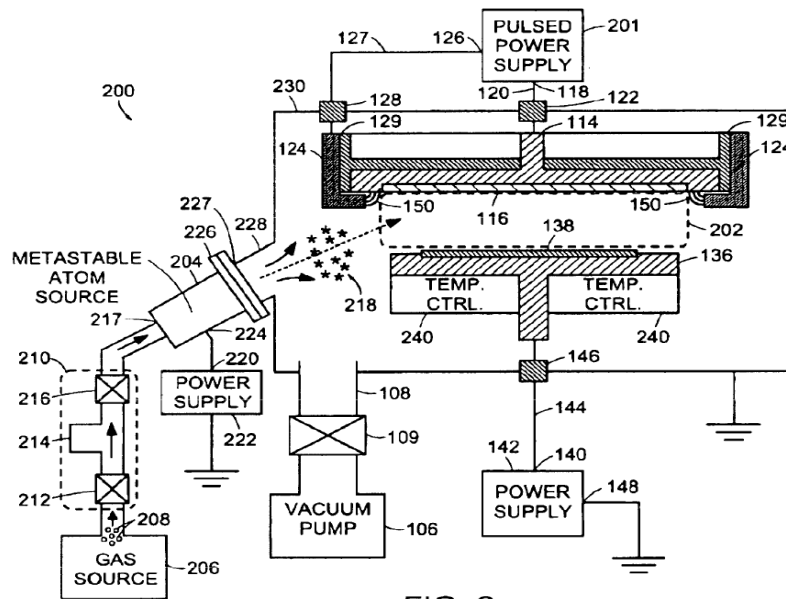


FIG. 2

In the embodiment shown in Figure 2, feed gas source 206 supplies ground state atoms 208 (e.g., ground state argon atoms) to metastable atom

source 204 that generates excited or metastable atoms 218 from ground state atoms 208. *Id.* at 4:26–42. Plasma 202 is generated from excited or metastable atoms 218 in process chamber 230. *Id.* at 5:25–34.

Electrons and ions are formed in metastable atom source 204 along with excited or metastable atoms 218. *Id.* at 8:20–23. In another embodiment, the ions and electrons are separated from excited or metastable atoms 218 and trapped in an electron/ion absorber before excited or metastable atoms 218 are injected into plasma chamber 230. *Id.* at 8:23–26, 18:62–67, Fig. 10. Figure 12B of the '779 patent illustrates the electron/ion absorber and is reproduced below:

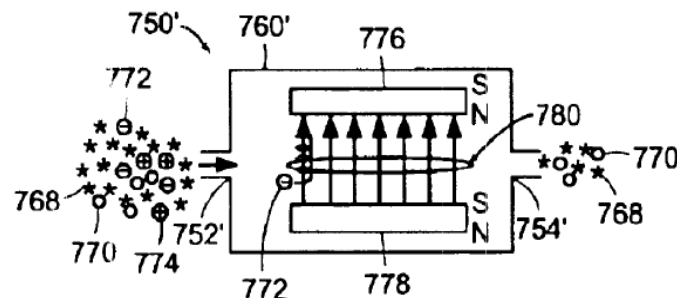


FIG. 12B

As shown in Figure 12B, electron/ion absorber 750' includes magnets 776 and 778 that generate magnetic field 780, trapping electrons 772 and ions 774 in chamber 760'. *Id.* at 20:9–13. Excited or metastable atoms 768 and ground state atoms 770 then flow through output 754'. *Id.* at 20:19–21.

C. Illustrative Claim

Of the challenged claims, claims 1 and 18 are the only independent claims. Claims 2–4, 10–15, and 17 depend, directly or indirectly, from claim 1. Claims 24–27 and 29 each depend directly from claim 18.

Claim 1 is illustrative:

1. A plasma generator that generates a plasma with a multi-step ionization process, the plasma generator comprising:

a feed gas source comprising ground state atoms;

an excited atom source that receives ground state atoms from the feed gas source, the excited atom source comprising a magnet that generates *a magnetic field for substantially trapping electrons proximate to the ground state atoms*, the excited atom source generating excited atoms from the ground state atoms;

a plasma chamber that is coupled to the excited atom source, the plasma chamber confining a volume of excited atoms generated by the excited atom source; and

an energy source that is coupled to the volume of excited atoms confined by the plasma chamber, the energy source raising an energy of excited atoms in the volume of excited atoms so that at least a portion of *the excited atoms in the volume of excited atoms is ionized*, thereby generating a plasma with a multi-step ionization process.

Ex. 1001, 21:10–30 (emphases added).

D. Prior Art Relied Upon

GlobalFoundries relies upon the following prior art references:

Pinsley	US 3,761,836	Sept. 25, 1973	(Ex. 1005)
Angelbeck	US 3,514,714	May 26, 1970	(Ex. 1006)
Iwamura	US 5,753,886	May 19, 1998	(Ex. 1007)

D.V. Mozgrin, et al., *High-Current Low-Pressure Quasi-Stationary Discharge in a Magnetic Field: Experimental Research*, 21 PLASMA PHYSICS REPORTS, NO. 5, 400–409 (1995) (Ex. 1003, “Mozgrin”).

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