

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

INTEL CORPORATION
and
QUALCOMM INCORPORATED, GLOBALFOUNDRIES INC.,
GLOBALFOUNDRIES U.S. INC., GLOBALFOUNDRIES DRESDEN
MODULE ONE LLC & CO. KG, GLOBALFOUNDRIES DRESDEN
MODULE TWO LLC & CO. KG,
Petitioner,

v.

DSS TECHNOLOGY MANAGEMENT, INC.,
Patent Owner.

Case IPR2016-00288¹
Patent 6,784,552 B2

Before BRYAN F. MOORE, BRIAN J. McNAMARA, and
MINN CHUNG, *Administrative Patent Judges*.

CHUNG, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

¹ Case IPR2016-01314 has been joined with this proceeding.

I. INTRODUCTION

In this *inter partes* review, instituted pursuant to 35 U.S.C. § 314, Intel Corporation, Qualcomm Incorporated, Globalfoundries Inc., Globalfoundries U.S. Inc., Globalfoundries Dresden Module One LLC & Co. KG, and Globalfoundries Dresden Module Two LLC & Co. KG (collectively, “Petitioner”) challenge the patentability of claims 8–12 (the “challenged claims”) of U.S. Patent No. 6,784,552 B2 (Ex. 1101, “the ’552 patent”), owned by DSS Technology Management, Inc. (“Patent Owner”). The Board has jurisdiction under 35 U.S.C. § 6. This Final Written Decision is entered pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. We base our decision on the preponderance of the evidence. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). With respect to the grounds instituted in this trial, we have considered the papers submitted by the parties and the evidence cited therein. For the reasons discussed below, we determine Petitioner has shown by a preponderance of the evidence that claims 8–12 of the ’552 patent are unpatentable.

A. Procedural History

On December 8, 2015, Intel Corporation filed a Petition (Paper 2, “Pet.”) requesting *inter partes* review of claims 8–12 of the ’552 patent. Patent Owner filed a Preliminary Response (Paper 7, “Prelim. Resp.”). On June 8, 2016, we instituted an *inter partes* review of claims 8–12 of the ’552

patent based on the ground that the challenged claims are anticipated by Heath.² Paper 11 (“Dec. on Inst.”), 28.

After institution, Qualcomm Incorporated, Globalfoundries Inc., Globalfoundries U.S. Inc., Globalfoundries Dresden Module One LLC & Co. KG, and Globalfoundries Dresden Module Two LLC & Co. KG (collectively, “Qualcomm”) filed a petition requesting *inter partes* review of claims 8–12 of the ’552 patent on the same grounds asserted by Intel Corporation, accompanied by a timely motion seeking joinder with this proceeding. IPR2016-01314, Papers 3 (petition), 4 (motion for joinder).³ Patent Owner did not oppose the joinder. We instituted an *inter partes* review and joined it with the present proceeding. Papers 18, 19.

On September 7, 2016, Patent Owner filed a Patent Owner Response (Paper 20, “PO Resp.”) that contained no citations to evidence and no argument, other than noting that, in contrast to the standard applied in reaching a decision to institute (i.e., a reasonable likelihood Petitioner will prevail on its challenge to patentability of a claim), the standard for reaching a final decision is whether the Petitioner proved unpatentability by a preponderance of the evidence. PO Resp. 2. Patent Owner then stated that it “defers to the Board to make this determination based on its impartial analysis of the prior art and Petitioners’ arguments.” *Id.*

² Ex. 1103, U.S. Patent No. 4,686,000 (Aug. 11, 1987) (“Heath”).

³ Because Qualcomm’s petition in IPR2016-01314 is identical in all substantive aspects to the Petition in this proceeding (*see* Paper 18, 8), we cite only to the Petition throughout this Final Written Decision.

In its Reply (Paper 21, “Pet. Reply”) filed on December 7, 2016, Petitioner stated that Patent Owner has not cross-examined Petitioner’s expert, John C. Bravman, Ph.D., or provided any testimony that contradicts Dr. Bravman’s testimony, and that the challenged claims should be found unpatentable. Pet. Reply 1–2.

No hearing was held because we determined oral argument is not necessary to render a final written decision in this proceeding. See Paper 24, 2.

B. Related Proceedings

According to the parties, the ’552 patent is the subject of the following patent infringement cases: *DSS Tech. Mgmt., Inc. v. Intel Corp.*, Case No. 6:15-cv-130-JRG (E.D. Tex.); *DSS Tech. Mgmt., Inc. v. Samsung Elec. Co., Ltd.*, Case No. 6:15-cv-690 (E.D. Tex.); *DSS Tech. Mgmt., Inc. v. SK Hynix, Inc.*, Case No. 6:15-cv-691 (E.D. Tex.); and *DSS Tech. Mgmt., Inc. v. Qualcomm, Inc.*, Case No. 6:15-cv-692 (E.D. Tex.). Pet. 7; Paper 6, 2–3.

In related proceedings before the Board, we instituted *inter partes* reviews of claims 1–7 of the ’552 patent in IPR2016-00287 and IPR2016-01311.⁴ The ’552 patent is also the subject of an instituted trial proceeding *Samsung Elec. Co., Ltd. v. DSS Tech. Mgmt., Inc.*, Case IPR2016-00782. Additionally, we instituted *inter partes* reviews of claims of U.S. Patent

⁴ Case IPR2016-01311 has been joined with IPR2016-00287.

No. 5,965,924 in *Intel Corp. v. DSS Tech. Mgmt., Inc.*, Cases IPR2016-00289, IPR2016-00290, IPR2016-01312, and IPR2016-01313.⁵

II. THE '552 PATENT

A. Described Invention

The '552 patent describes a process of semiconductor device fabrication and a structure of a semiconductor device having “substantially rectangular” lateral insulating spacers adjacent to gate electrodes. Ex. 1101, Abstract. The '552 patent defines the term “substantially rectangular” to mean that “a side of the spacer has an angle relative to the substrate surface of more than 85°.” *Id.* at col. 8, ll. 40–42.

Figure 4(D) of the '552 patent is reproduced below.

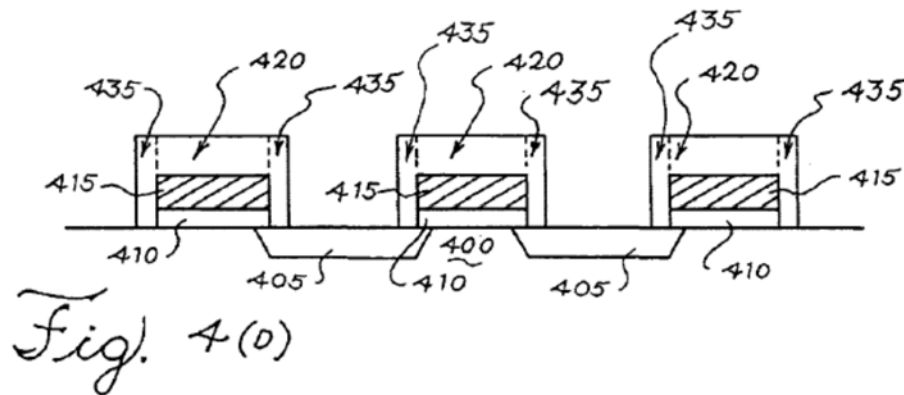


Figure 4(D) illustrates a cross-sectional view of a series of gates 415 (also called conducting layers or polysilicon layers) completely encapsulated in insulating material 420, e.g., TEOS (tetraethyl orthosilicate glass), where spacers or spacer portions 435 of the insulating material adjacent to the gates

⁵ Cases IPR2016-01312 and IPR2016-01313 have been joined with IPR2016-00290 and IPR2016-00289, respectively.

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.