

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GLOBALFOUNDRIES U.S. INC.,
Petitioner,

v.

GODO KAISHA IP BRIDGE 1,
Patent Owner.

Case IPR2017-00903
Patent RE41,980 E

Before JUSTIN T. ARBES, MICHAEL J. FITZPATRICK, and
JENNIFER MEYER CHAGNON, *Administrative Patent Judges*.

FITZPATRICK, *Administrative Patent Judge*.

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

I. INTRODUCTION

Petitioner, GlobalFoundries U.S. Inc., filed a Petition to institute an *inter partes* review of claims 18, 19, 30–36, and 47–51 of U.S. Patent No. RE41,980 E (Ex. 1001, “the ’980 patent”) pursuant to 35 U.S.C. § 311(a). Paper 2 (“Pet.”). Patent Owner, Godo Kaisha IP Bridge 1, filed a Preliminary Response under 35 U.S.C. § 313. Paper 8 (“Prelim. Resp.”).

We have authority to determine whether to institute an *inter partes* review. 35 U.S.C. § 314(b); 37 C.F.R. § 42.4(a). Upon consideration of the Petition and Preliminary Response, and for the reasons explained below, we determine that the information presented does not show a reasonable likelihood that Petitioner would prevail with respect to any claim challenged in the Petition. *See* 35 U.S.C. § 314(a); 37 C.F.R. § 42.108. The Petition is denied.

A. Related Matters

The ’980 patent issued from Serial No. 11/984,551, which was a continuation reissue application of Serial No. 10/438,348 (now U.S. Patent No. RE39,932), which was a reissue application of Serial No. 09/387,834 (now U.S. Patent No. 6,232,656), which was a divisional application of Serial No. 08/925,442 (now U.S. Patent No. 5,989,992), which was filed September 8, 1997. Ex. 1001, 1:10–20.

A different petitioner has filed three petitions for an *inter partes* review of the ’980 patent, all of which have been denied. *See* IPR2016-01331, Paper 9; IPR2016-01367, Paper 8; IPR2017-00931, Paper 9.

Patent Owner asserted the '980 patent in *Godo Kaisha IP Bridge 1 v. Broadcom Ltd.*, No. 2-16-cv-00134 (E.D. Tex.). Pet. 86; Paper 4, 2.

B. The '980 Patent

The '980 patent “relates to a semiconductor device having a metal wire layer and a passivation film in the upper most layer” and, more particularly, to “improvement in the structures of a bonding pad and a surface protecting film.” Ex. 1001, 1:23–27. The stated “object” of the '980 patent is “providing a semiconductor device having high integration, high reliability, and high performance . . . by decreasing a parasitic capacitance between metal wires with a small pitch in a metal wire layer, by preventing a coverage defect in depositing a silicon nitride film used as a passivation film, and by suppressing moisture absorption through an opening for forming a bonding pad.” *Id.* at 2:40–48.

Figure 1 of the '980 patent is reproduced below.

Fig. 1

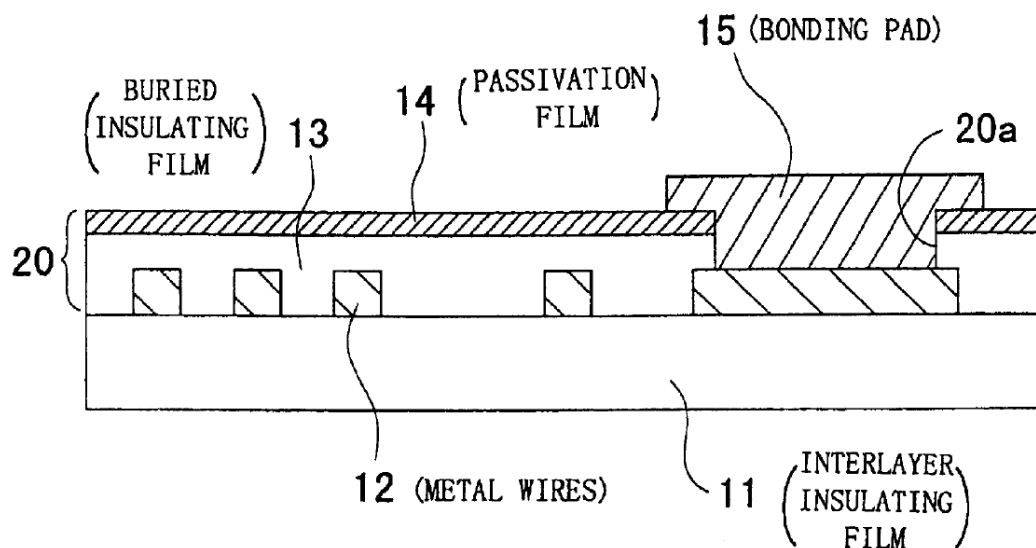


Figure 1 shows a sectional view of a semiconductor device embodiment of the invention of the '980 patent. *Id.* at 6:21–23. The embodiment includes interlayer insulating film 11 on which is formed a metal wire layer including a plurality of metal wires 12. *Id.* at 7:29–32. Surface protecting film 20 covers the interlayer insulating film and the metal wires. *Id.* at 7:33–35. The surface protecting film “is a composite film including a buried insulating film 13 of an insulating film with a small dielectric constant (such as a TEOS film) and a passivation film 14 of an insulating film with a large dielectric constant and high moisture absorption resistance (such as a silicon nitride film).” *Id.* at 7:35–40. Bonding pad 15 is buried in opening 20a of the surface protecting film, completely covers the side faces of the buried insulating film, and is drawn above the passivation film. *Id.* at 7:43–49.

C. The Challenged Claims

Of the challenged claims, claims 18 and 35 are independent. Claim 18 is illustrative and reproduced below.

18. A semiconductor device comprising:
- a semiconductor substrate bearing semiconductor elements;
 - an interlayer insulating film formed on said semiconductor substrate;
 - a metal wire layer including plural metal wires formed on said interlayer insulating film;
 - a surface protecting film including a first dielectric film with a small dielectric constant for filling at least a part of areas among said metal wires in said metal wire layer and a second dielectric film with a higher moisture absorption preventing function than said first dielectric film for covering said metal wire layer and said first dielectric film, said second dielectric film having a function of suppressing moisture absorption of said first dielectric film;
 - an opening for a bonding pad formed in said surface protecting film; and
 - a bonding pad formed in said opening for obtaining external electrical connection,
- wherein said bonding pad in said opening and said second dielectric film of said surface protecting film completely cover said first dielectric film so as not to expose said first dielectric film.

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