

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today
(1) was not written for publication in a law journal and
(2) is not binding precedent of the Board.

Paper No. 19

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TSIU C. CHAN and FRANK R. BRYANT

Appeal No. 96-1656
Application 08/182,809¹

ON BRIEF

Before KRASS, JERRY SMITH and CARMICHAEL, ***Administrative Patent Judges***.

CARMICHAEL, ***Administrative Patent Judge***.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 22-39 and 41-45. Claim 40 is the other remaining claim and has been indicated as directed to patentable subject matter.

¹ Application for patent filed January 14, 1994. According to appellants, this application is a division of Application 07/889,822 filed May 29, 1992, now Patent No. 5,310,692 issued May 10, 1994.

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Our opinion is based solely on the arguments raised by the appellants in their briefs. We do not address and offer no opinion on arguments which could have been raised but were not set forth in the briefs.

Claim 22 reads as follows:

22. A structure consisting of a portion of an integrated circuit device, comprising:

a substrate of semiconducting material having active devices in a first surface thereof;

a conductive structure overlying and insulated from a portion of said first surface of said substrate, and having an opening therethrough exposing a portion of said substrate;

an oxidized region recessed into an upper surface of the exposed substrate and laterally abutting a portion of said conductive structure at sidewalls of said opening, said oxidized region having a concave upper surface;

an insulating region filling said concave upper surface of said oxidized region in said opening; and

a planar silicide layer overlying said conductive structure and said insulating region;

wherein the active devices are laterally isolated only by said oxidized and insulating regions.

The Examiner's Answer cites the following prior art:

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|------------------------|-----------|---------------|
| Morita et al. (Morita) | 5,073,813 | Dec. 17, 1991 |
| Mazzali | 5,122,473 | Jun. 16, 1992 |

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OPINION

The examiner has entered three different rejections. First, claims 22 and 24-29 stand rejected under 35 U.S.C. § 102 as anticipated by Morita. Second, claims 22-23 and 30-36 stand rejected under 35 U.S.C. § 102 or § 103 as anticipated by, or unpatentable over, Morita. Third, claims 22-23, 37-39, and 41-45 stand rejected under 35 U.S.C. § 103 as unpatentable over Morita in view of Mazzali.

We will address the three rejections separately.

Anticipation of Claims 22 and 24-29 by Morita

We sustain the examiner's first rejection (Examiner's Answer at 3-5) primarily for the reasons of the examiner, with the following amplifying comments.

Claims undergoing examination are given their broadest reasonable interpretation consistent with the specification, and limitations appearing in the specification are not to be read into the claims. ***In re Etter***, 756 F.2d 852, 858, 225 USPQ 1, 5 (Fed. Cir. 1985) (in banc).

In the present case the claimed "portion" reads on the portion between, but not including, Morita's elements 32. Within this portion, active devices 36b are separated only by oxidation region 38 and insulating region 40. Appellants' arguments about substituting a two-part field oxide for LOCOS isolation are not

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commensurate in scope with the claims because the claims do not prohibit use of LOCOS isolation on other portions of the integrated circuit device.

Moreover, Morita's element 32 could be considered part of the oxidation region. We recognize that one of the disclosed objects of the invention is to form "an isolation structure having a surface which is substantially coplanar with the surface of the adjacent active regions." Specification at 4. However, the claims are not so limited.

As to claim 24, we agree with the examiner that Morita's element 44 may be included as part of the oxidized region, while still preserving element 38 as forming an upper surface of the oxidized region.

Anticipation or Obviousness of Claims 22, 23, and 30-36 over Morita

The examiner's second rejection (Examiner's Answer at 5-6) depends on ignoring "spin-on-glass" as a product by process limitation failing to distinguish over Morita's silicon dioxide. We agree that the examiner thereby stated a ***prima facie*** case, but we find that it was overcome by the declaration of James Cunningham saying that spin-on-glass has different etching properties. Therefore, we will not sustain the rejection of

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claims 23 and 30-36 over Morita alone. We sustain the rejection of claim 22, which does not have the spin-on-glass limitation.

Obviousness of Claims 22, 23, 37, 38, 39, and 41-45

We sustain the examiner's third rejection (Examiner's Answer at 6-7) primarily for the reasons of the examiner, with the following amplifying comments.

The mere fact that the prior art may be modified in the manner suggested by the examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. *In re Fritch*, 972 F.2d 1260, 1266 n.14, 23 USPQ2d 1780, 1783-84 n.14 (Fed. Cir. 1992).

In the present case, the examiner appropriately relies on Mazzali for providing motivation to one of skill in the art for using spin-on-glass in Morita in order to achieve planarity. Mazzali at column 3, lines 19-47 and column 5, lines 22-25. Thus, we find that the prior art suggested the desirability of using spin-on-glass.

It appears that this rejection should have included claims 30-36 under the same rationale. Therefore, we enter the following new ground of rejection.

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NEW GROUND OF REJECTION-37 CFR § 1.196(b)

Claims 30-36 are hereby rejected under 35 U.S.C. § 103 as unpatentable over Morita in view of Mazzali. The rationale is the same as stated above with respect to the examiner's third rejection.

CONCLUSION

The rejection of claims 22 and 24-29 as anticipated by Morita is sustained. The rejection of claims 23 and 30-36 as anticipated by or unpatentable over Morita is not sustained. The rejection of claim 22 as unpatentable over Morita is sustained. The rejection of claims 22, 23, 37, 38, 39, and 41-45 as unpatentable over Morita in view of Mazzali is sustained.

A new ground of rejection is entered against claims 30-36.

In addition to affirming the examiner's rejection of one or more claims, this decision contains a new ground of rejection pursuant to 37 CFR § 1.196(b) (amended effective Dec. 1, 1997, by final rule notice, 62 Fed. Reg. 53,131, 53,197 (Oct. 10, 1997), 1203 Off. Gaz. Pat. & Trademark Office 63, 122 (Oct. 21, 1997)). 37 CFR § 1.196(b) provides, "A new ground of rejection shall not be considered final for purposes of judicial review."

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Regarding any affirmed rejection, 37 CFR § 1.197(b) provides:

(b) Appellant may file a single request for rehearing within two months from the date of the original decision

37 CFR § 1.196(b) also provides that the appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of proceedings (37 CFR § 1.197(c)) as to the rejected claims:

(1) Submit an appropriate amendment of the claims so rejected or a showing of facts relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the application will be remanded to the examiner. . . .

(2) Request that the application be reheard under § 1.197(b) by the Board of Patent Appeals and Interferences upon the same record. . . .

Should the appellant elect to prosecute further before the Primary Examiner pursuant to 37 CFR § 1.196(b)(1), in order to preserve the right to seek review under 35 U.S.C. §§ 141 or 145 with respect to the affirmed rejection, the effective date of the affirmance is deferred until conclusion of the prosecution before the examiner unless, as a mere incident to the limited prosecution, the affirmed rejection is overcome.

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If the appellant elects prosecution before the examiner and this does not result in allowance of the application, abandonment or a second appeal, this case should be returned to the Board of Patent Appeals and Interferences for final action on the affirmed rejection, including any timely request for reconsideration thereof.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED IN PART-37 CFR § 1.196(b)

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| ERROL A. KRASS |) | |
| Administrative Patent Judge |) | |
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| JERRY SMITH |) | BOARD OF PATENT |
| Administrative Patent Judge |) | APPEALS AND |
| |) | INTERFERENCES |
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