

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte BIN YU, ROBERT B. OGLE, ERIC N. PATON,
CYRUS E. TABERY, and QI XIANG

Appeal No. 2004-1853
Application No. 09/983,625

ON BRIEF

Before PAK, OWENS, and KRATZ, Administrative Patent Judges.
KRATZ, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1-11, which are all of the claims pending in this application.

BACKGROUND

Appellants' invention relates to a method of manufacturing a semiconductor device wherein source/drain regions in the substrate are activated by laser thermal annealing. Thereafter, a nickel silicide layer is disposed on the activated source/drain

regions. A further understanding of the invention can be derived from a reading of exemplary claim 1, which is reproduced below.

1. A method of manufacturing a semiconductor device, comprising the steps of:

forming a gate electrode over a substrate and a gate oxide between the gate electrode and the substrate;

implanting dopants within the substrate to form source/drain regions in the substrate proximate to the gate electrode;

laser thermal annealing to active the source/drain regions; and

forming a nickel silicide layer disposed on the source/drain regions after the laser thermal annealing of the source/drain regions.

The sole prior art reference of record relied upon by the examiner in rejecting the appealed claims is:

Chong et al. (Chong)	6,365,446	Apr. 02, 2002
		(filed Jul. 03, 2000)

Claims 1-11 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Chong.

We refer to the briefs and to the answer for a complete exposition of the opposing viewpoints expressed by appellants and the examiner concerning the issues before us on this appeal.

OPINION

Upon consideration of the respective positions advanced by appellants and the examiner with respect to the rejection that is

before us for review, we find ourselves in agreement with appellants' position in that the examiner has failed to carry the burden of establishing a prima facie case of anticipation. Accordingly, we will not sustain the examiner's stated rejection.

All of the claims on appeal are drawn to a method wherein a nickel silicide layer is disposed on source/drain regions of a substrate after those regions were activated via laser thermal annealing. See appealed independent claims 1 and 11.

In the Section 102(b) rejection set forth in the answer, the examiner asserts that the laser thermal annealing of the lightly doped junctions (13) of Chong (column 4, lines 21-25) to form shallow source and drain extensions (14) meets appellants' claimed step of laser thermal annealing source/drain regions. In maintaining that assertion, the examiner takes the view that the claimed source/drain regions correspond to or read on the lightly doped junctions or drains (13) of Chong. In this regard, the examiner seems to be of the opinion that the claimed source/drain regions "may be anticipated by the sub-part 'source/drain' extension" (answer, page 8).

Appellants, on the other hand, have argued, inter alia, that the lightly doped junctions (13) of Chong "are source/drain extensions and not source/drain regions" (brief, page 4).

In this regard, we note that appellants' specification and drawings draw a distinction between "source/drain regions 40, 42" (specification, page 6, lines 5-7 and "lightly doped (LDD) source/drain extensions 30, 32" (specification, page 5, lines 22-23). See, e.g., appellants' drawing figures 1E and 1F. Similarly, Chong refers to source/drain (22) as being a distinct region from drain extension (14). See, e.g., figure 6 of Chong. While Chong does refer to annealing, via laser radiation, the source/drain region at column 5, lines 37-59, that step occurs concurrently with the silicide layer formation, not before as required by claims 1 and 11.

On this record, the examiner has not fairly established that Chong represents an anticipatory disclosures of the subject matter recited in the rejected claims. In this regard, the examiner has the initial burden of establishing a prima facie case of anticipation by pointing out where all of the claim limitations are described in a single reference. See In re Spada, 911 F.2d 705, 708, 15 USPQ2d 1655, 1657 (Fed. Cir. 1990); In re King, 801 F.2d 1324, 1327, 231 USPQ 136, 138-39 (Fed. Cir. 1986). Here, the examiner has not met that burden for the reasons discussed above and in the briefs. Consequently, we will not sustain the examiner's Section 102(e) rejection.

CONCLUSION

The decision of the examiner to reject claims 1-11 under 35 U.S.C. § 102(e) as being anticipated by Chong is reversed.

REVERSED

CHUNG K. PAK)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
TERRY J. OWENS)	APPEALS
Administrative Patent Judge)	AND
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PETER F. KRATZ)	
Administrative Patent Judge)	

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MCDERMOTT, WILL & EMERY
600 13TH STREET, N.W.
WASHINGTON, D.C. 20005-3096