

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte EUGENE A. FITZGERALD

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Appeal No. 2005-0864  
Application No. 09/859,139

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ON BRIEF

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Before GARRIS, KRATZ and JEFFREY T. SMITH, Administrative Patent Judges.

KRATZ, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1-29, which are all of the claims pending in this application.

BACKGROUND

Appellant's invention relates to a buried channel field effect transistor. A relaxed SiGe layer or a relaxed SiGe cap layer are each located adjacent the channel layer. An ion implanted dopant supply is maintained in at least one of the aforementioned SiGe layers. A further understanding of the invention can be derived from a reading of exemplary claim 1, which is reproduced below.

1. A buried channel FET comprising:
  - a substrate;
  - a relaxed SiGe layer;
  - a channel layer adjacent said relaxed SiGe layer;
  - a SiGe cap layer adjacent said channel layer; and
  - an ion-implanted dopant supply in at least one of the relaxed SiGe layer and the SiGe cap layer, the dopant supply extending along said channel and having an ion-implanted dopant profile.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Murakami et al. (Murakami)	5,241,197	Aug. 31, 1993
Chu et al. (Chu)	6,059,895	May 09, 2000

In rebuttal, appellant relies on the following reference of record:

Plummer et al., Silicon VLSI Technology, Fundamentals, Practice and Modeling, Chapter 8, pp. 451-454 (publication date - not of record).

Claims 1-7, 10, 17, 19, 21-25 and 28 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Murakami.

Claims 8, 9, 11-16, 18, 20, 26, 27 and 29 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Murakami in view of Chu.

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

#### OPINION

Upon review of the entire record including the respective positions advanced by appellant and the examiner with respect to the rejections that remains before us, we find ourselves in agreement with appellant that the examiner has failed to carry the burden of establishing a prima facie case of anticipation or

obviousness. Accordingly, we will not sustain the examiner's stated rejections on this record substantially for reasons set forth in appellant's briefs.

§ 102(b) Rejection

The examiner has the initial burden of establishing a prima facie case of anticipation by pointing out where all of the claim limitations appear 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). In order for a claimed invention to be anticipated under 35 U.S.C. § 102, all of the elements of the claim must be found in one reference. See Scripps Clinic & Research Found. v. Genentech Inc., 927 F.2d 1565, 1576, 18 USPQ2d 1001, 1010 (Fed. Cir. 1991).

Here, the examiner has not convincingly explained where Murakami describes a structure which falls within the scope of the so rejected appealed claims. Concerning the appealed claims' requirement for an "ion-implanted dopant supply in at least one of the relaxed SiGe layer and the SiGe cap layer, the dopant

supply extending along said channel and having an ion-implanted dopant profile" as recited in independent claims 1 and 21, the examiner refers to "dopant profile 50, fig. 9B" of Murakami as corresponding to that claimed feature. See page 3 of the answer.

As maintained by the examiner (answer, page 7):

In fig. 9B[,] of (sic) Murakami shows the ion implant dopant profile P<sup>+</sup> 50 region, [see] column 8, line 44, extending in at least one of the relaxed SiGe layer 31 and the SiGe cap layer 32. Clearly, any[one of] ordinary skill in the art can plainly see that P<sup>+</sup> 50 region has an ion-implanted dopant profile (P<sup>+</sup> is as the result (sic) of ion implantation having a profile); therefore [the] P<sup>+</sup> 50 region [of Murakami] would [have been] read on [by] the claim language. The Appellant has failed to explicitly define what is the meaning of the word "profile" in the specification; thus[,] the words of a (sic) claim[s] must be given their broadest reasonable interpretation consistent with the specification and their "plain meaning[.]" [S]ee MPEP 2111.

The Examiner submits that Murakami's structure discloses the explicit[ly] recited 'ion-implanted dopant profile' claimed limitation.

As explained by appellant in the briefs, however, the examiner has not carried the burden of establishing where in Murakami any detailed explanation of the profiles of the P<sup>+</sup> regions (50, Fig. 9B) is presented that would necessarily

require that element 50 of Figure 9B constitutes a structure corresponding to appellant's claimed "ion-implanted dopant supply in at least one of the relaxed SiGe layer and the SiGe cap layer, the dopant supply extending along said channel and having an ion-implanted dopant profile." See page 4 of the reply brief.

In this regard, we agree with appellant that the examiner has not explained where Murakami offers any detailed description of the profiles of the P<sup>+</sup> regions (50, Fig. 9B) that would necessarily describe a dopant supply extending along the channel with the claimed type of profile.<sup>1</sup> Inherency cannot be established based on conjecture and/or probabilities or possibilities. See In re Oelrich, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981).

On this record, we reverse the stated § 102(b) rejection.

#### § 103(a) Rejection

The examiner does not explain how Chu would have suggested employing a channel dopant supply with the claimed type of profile in Murakami. Consequently, we also reverse the examiner's § 103(a) rejection, on this record.

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<sup>1</sup> See appellant's brief, pages 5-8 and the reply brief.

CONCLUSION

The decision of the examiner to reject claims 1-7, 10, 17, 19, 21-25 and 28 under 35 U.S.C. § 102(b) as being anticipated by Murakami and to reject claims 8, 9, 11-16, 18, 20, 26, 27 and 29 under 35 U.S.C. § 103(a) as being unpatentable over Murakami in view of Chu is reversed.

REVERSED

Bradley R. Garris	)	
Administrative Patent Judge	)	
	)	
	)	
	)	
	)	BOARD OF PATENT
Peter F. Kratz	)	APPEALS
Administrative Patent Judge	)	AND
	)	INTERFERENCES
	)	
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	)	
Jeffrey T. Smith	)	
Administrative Patent Judge	)	

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Patent Administrator  
TESTA, HURWITZ & THIBEAULT, LLP  
High Street Tower  
125 High Tower  
Boston, MA 02110