

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

Paper No. 18

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte RAINALD SANDER and CHIHAO XU

Appeal No. 2000-2100
Application No. 09/101,371

HEARD: April 24, 2002

Before HAIRSTON, FLEMING, and GROSS, Administrative Patent Judges.
HAIRSTON, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1 and 2.

The disclosed invention relates to the symmetrical arrangement of outputs of either a power MOSFET or a power bipolar transistor located on an integrated semiconductor chip. The symmetrically arranged outputs are bonded to a conductor frame via two symmetrically shaped bond wires that carry substantially equal values of current.

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Claim 1 is illustrative of the claimed invention, and it reads as follows:

1. A semiconductor component composed of an integrated semiconductor chip having a first large side and a second large side, comprising:

one power MOSFET or one power bipolar transistor having first terminal surfaces for an input and an ;output;

a signal-processing circuit that processes a weak-current signal and that has second terminal surfaces on said second large side;

a conductor frame;

said first and second terminal surfaces connected to said conductor frame via a plurality of bond wires;

said power MOSFET or power bipolar transistor having said input on said first large side and two symmetrically arranged outputs on said second large side; and

said symmetrically arranged outputs bonded to said conductor frame via two symmetrically shaped bond wires carrying an almost same current.

The reference relied on by the examiner is:

Masuda et al. (Masuda) 5,029,267 July 2, 1991

Claims 1 and 2 stand rejected under the second paragraph of 35 U.S.C. § 112 for indefiniteness.

Claims 1 and 2 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the admitted prior art figures in view of Masuda.

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Reference is made to the briefs (paper numbers 10 and 12) and the answer (paper number 11) for the respective positions of the appellants and the examiner.

OPINION

We have carefully considered the entire record before us, and we will reverse the indefiniteness and the obviousness rejections of claims 1 and 2.

Turning first as we must to the indefiniteness rejection, the examiner is of the opinion (answer, page 3) that "[t]he limitation of 'symmetrically shaped bond wires' is confusing." According to the examiner (answer, pages 5 and 6), the term "symmetrical" is indefinite because "it encompasses a variety of features," it "could be applied to a multitude of shapes," and "it is well known in the art that almost any bond wire is symmetrically shaped." In response, appellants argue (brief, page 11) that:

[L]ines 19-23 on page 2 of the present application teach that the bond wires are symmetrical both in positioning and in the shape or construction of wires themselves. Particularly in evidence of the latter symmetricalness of the bond wires, lines 21-23 of page 2 teach that the lengths of the bond wires are the same (i.e., correspondence of shape for the bond wires on both sides of the conductor frame, hence symmetricalness) as opposed to bond wires of the asymmetrical connection known in the prior art. Furthermore, Figures 3 and 4 clearly illustrate this symmetry. Hence, the construction or the "shape" of the bond wires are taught to be symmetrical (i.e., the same). Taken in light of this teaching in the

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specification and drawings, this claim language is definite to set out and circumscribe with a reasonable degree of clarity and particularity the subject matter of the present invention. Hence, the assertion that this claim element is indefinite is erroneous and contrary to proper examination for compliance with the requirements for definiteness under 35 U.S.C. § 112, second paragraph.

When the questioned claimed limitation is considered in light of the application disclosure, as it would be by one possessing ordinary skill in the art, we find that appellants have merely disclosed and claimed bond wires that should be the "same." In re Moore, 439 F.2d 1232, 1235, 169 USPQ 236, 238 (CCPA 1971). In other words, the claims merely require that the two bonds wires must be the "same" shape so that they will carry the "same" amount of current. Accordingly, the indefiniteness rejection is reversed because we agree with appellants' arguments.

Turning next to the obviousness rejection, the examiner states (answer, page 4) that:

The prior art figures show all of the elements of the claims except the symmetrically arranged bond wires. Masuda et al. discloses an oscillator device (col. 7, lines 60-67) comprising an integrated circuit having bond wires arranged symmetrically. The symmetrical arrangement reduces electromagnetic induction in the circuit (col. 8, lines 1-4). Masuda does not disclose that the symmetrical bond wire arrangement provides a uniform current through the wires, however it is inherent that the arrangement of Masuda performs the same function as the applicant's invention because the device has the same structure as the applicant's invention. Therefore it would have been obvious to one of ordinary skill in

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the art at the time the invention was made to modify the integrated circuit of the prior art with the symmetrically arranged bond wires of Masuda to reduce electromagnetic induction.

Appellants argue inter alia (brief, pages 16 and 17) that "to state that one of ordinary skill in the art would be motivated to modify the integrated circuit of the prior art with the wires of Masuda et al. in order to reduce electromagnetic induction does not make sense since electromagnetic induction has no effect on direct current resistance, only on alternating current impedance," and that the skilled artisan when confronted with the problem of trying to achieve reduced on-state DC resistance in either power MOSFETs or power bipolar transistors would not have turned to Masuda's teaching of reducing electromagnetic induction in an oscillator circuit. Appellants also argue (brief, page 17) that "[a]lthough Masuda et al. may teach a symmetrical arrangement, no teaching or suggestion is given that the bond wires themselves are in fact of symmetrical or the same shape" or that they carry equal current values. With respect to the examiner's inherency position, appellants argue (reply brief, page 3) that Masuda "in no way teaches or suggests that there is uniform current in bond wires between . . . an IC and a SAW element arranged near the IC," and

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that “[t]o merely presume the possibility of identical currents in the bond wires of Masuda is not sufficient to establish inherency.”

We agree with appellants’ arguments. An inherency teaching must be necessarily present in the structure described in the applied reference. Continental Can Co. v. Monsanto Co., 948 F.2d 1264, 1268, 20 USPQ2d 1746, 1749 (Fed. Cir. 1991). The examiner must provide extrinsic evidence, rather than an opinion, that makes clear that “the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill.” In re Robertson, 169 F.3d 743, 744-45, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999). Inherency “may not be established by probabilities or possibilities.” In re Oelrich, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981). In summary, the obviousness rejection is reversed because we agree with appellants that Masuda does not disclose the same structure as the disclosed and claimed invention, and that neither the admitted prior art nor Masuda teaches or would have suggested to one of ordinary skill in the art two symmetrically shaped bond wires carrying equal values of current.

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DECISION

The decision of the examiner rejecting claims 1 and 2 under the second paragraph of 35 U.S.C. § 112 and 35 U.S.C. § 103(a) is reversed.

REVERSED

KENNETH W. HAIRSTON)	
Administrative Patent Judge)	
)	
)	
)	
)	BOARD OF PATENT
MICHAEL R. FLEMING)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
)	
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JUDGE HAIRSTON

APPEAL NO. 2000-2100

APPLICATION NO. 09/101,371

APJ HAIRSTON

APJ GROSS

APJ FLEMING

DECISION: **REVERSED**

PREPARED: Aug 1, 2003

OB/HD

PALM

ACTS 2

DISK (FOIA)

REPORT

BOOK