

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(2) is not binding precedent of the Board.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. 31

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TREVOR C. GAINNEY
and NIKO MIAOULIS

Appeal No. 1997-3155
Application 08/424,828

ON BRIEF

Before THOMAS, HAIRSTON, and GROSS, Administrative Patent Judges.

HAIRSTON, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1 through 12 and 18 through 28.

The disclosed invention relates to a composite lead frame in a semiconductor device assembly. The lead frame has a plurality of lead fingers that extend in the direction of a

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die paddle that supports a die and a support means. Each bond wire in the

assembly extends continuously as one wire from the die to a corresponding lead finger. The intermediate portion of each continuous bond wire is affixed to the support means.

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

1. Composite lead frame, comprising:

a lead frame having a plurality of lead fingers radiating from a central area, and a die paddle located in the central area; and

support means disposed on the die paddle, for supporting intermediate portions of bond wires extending from a die on the die paddle to the lead fingers, each bond wire extending continuously as one wire from the die to a corresponding lead finger, wherein an electrical connection is established from the die to said corresponding lead finger based exclusively on said one wire, each intermediate portion being affixed to the support means.

The reference relied on by the examiner is:

Aoki et al. (Aoki)	4,903,114	Feb.
20, 1990		

Claims 1 through 12 and 18 through 28 stand rejected under 35 U.S.C. § 103 as being unpatentable over Aoki.

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Reference is made to the brief and the answer for the respective positions of the appellants and the examiner.

OPINION

The obviousness rejection of claims 1 through 12 and 18 through 28 is reversed.

Appellants have not taken issue with the examiner's finding that Aoki discloses all of the claimed structure except for an intermediate portion of a continuous bond wire affixed to the support means (Answer, pages 2 and 3; Brief, page 6). With respect to such missing limitation, the examiner concludes (Answer, page 3) that "[t]hrough Aoki et al show bond wire 106 [Figure 1] divided into two wires 206 and 306 [Figure 3] or 18 and 19 [Figure 7] . . . , it would have been considered obvious to an artisan having ordinary skill in this art to substitute a single wire having an intermediate portion bonded to said support because the two wire structure of Aoki are electrically equivalent and substituting one equivalent structure for another is well known and commonly performed in this art."

Based upon the foregoing, the examiner set forth a prima facie case of obviousness. As a result thereof, the burden shifted to appellants to rebut the examiner's prima facie case

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with convincing evidence or arguments. In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). The obviousness of the claimed invention is thereafter determined based upon the evidence as a whole and the relative persuasiveness of the arguments.

Appellants argue (Brief, page 6) that "Aoki does not disclose or suggest a single bond wire that is affixed to a support means on the die paddle at an intermediate position on the wire as recited in claim 1." Appellants also argue (Brief, page 7) that:

Aoki explicitly teaches that as a single wire becomes long, it may be beneficial to divide the wire into two short wires, each bonded to a relay pad (col. 1, lines 53-63). Therefore, the express teachings of Aoki would direct a person of ordinary skill in the art to use two short wires as shown. Accordingly, Aoki literally teach[es] away from the present invention and a prima facie case of obviousness has not been established.

The mere fact that Aoki took a continuous wire and cut it into two pieces is evidence that Aoki clearly did not have any desire to work with a single piece of bond wire that spanned the distance between the die and a lead finger of the lead frame. Aoki's teachings, therefore, run counter to the approach taken by appellants. Thus, the only teaching or suggestion of record that discloses a support means for

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supporting an intermediate portion of a continuous wire that spans the distance between a die and a lead finger is appellants' disclosed and claimed invention. Appellants' teachings are not available to the examiner to fashion an obviousness rejection of the claims on appeal.

In summary, we are of the opinion that the appellants' position is more persuasive than the examiner's position because Aoki clearly teaches away from the claimed invention.

DECISION

The decision of the examiner rejecting claims 1 through 12 and 18 through 28 under 35 U.S.C. § 103 is reversed.

REVERSED

	James D. Thomas)	
	Administrative Patent Judge)	
)	
)	
	Kenneth W. Hairston)	BOARD OF
PATENT)	
	Administrative Patent Judge)	APPEALS AND
)	INTERFERENCES
)	
	Anita Pellman Gross)	
	Administrative Patent Judge)	

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