

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. 16

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte WAYNE T. HOLCOMBE

Appeal No. 2004-0078
Application No. 09/920,420

ON BRIEF

Before WALTZ, DELMENDO, and PAWLIKOWSKI, Administrative Patent Judges.

WALTZ, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal from the primary examiner's final rejection of claims 1 through 5 and 11 through 15. The remaining claims in this application are claims 6 through 10 which stand withdrawn from further consideration as directed to a non-elected invention (Brief, page 1). We have jurisdiction pursuant to 35 U.S.C. § 134.

According to appellant, the invention is directed to a distributed photodiode composed of a substrate doped with a first dopant type and having first and second planar surfaces, with a

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first plurality of diffusions doped with a second dopant type and formed on the first planar surface of the substrate, while a second plurality of diffusions are doped with the first dopant type and formed on the first planar surface of the substrate interposed the first plurality of diffusions (Brief, page 2). Representative independent claim 1 is reproduced below:

1. A distributed photodiode, the photodiode comprising:

a substrate, the substrate being doped with a first dopant type and having first and second planar surfaces;

a first plurality of diffusions, the first plurality of diffusions being doped with a second dopant type and formed on the first planar surface of the substrate;

a second plurality of diffusions, the second plurality of diffusions being doped with the first dopant type and formed on the first planar surface of the substrate interposed the first plurality of diffusions; and

a first contact having a first plurality of connective traces disposed on the first planar surface of the substrate and coupled to each of the first plurality of diffusions.

The examiner has relied upon the following references as evidence of obviousness:

Rosbeck et al. (Rosbeck)	4,961,098	Oct. 02, 1990
Kataoka et al. (Kataoka) (filed Jul. 19, 1996)	6,320,115 B1	Nov. 20, 2001

The claims on appeal stand rejected under 35 U.S.C. § 103(a) as unpatentable over Rosbeck in view of Kataoka (Answer, page 3). We reverse the rejection on appeal essentially for the reasons stated in the Brief, Reply Brief and those reasons set forth below.

OPINION

The examiner finds that Rosbeck discloses an array of photovoltaic detectors with a p-region 14, a n-region 18 and grooves within p-region 16 (Answer, page 3). The examiner states that the claims are drawn to a "device" and thus the method of producing the doping of the structure that is formed carries "no weight" (Answer, page 4). The examiner further states that appellant describes the doping method as diffusion while "Rosbeck, apparently, forms the doping by growing the layers with a dopant included." *Id.* The examiner thus finds that Rosbeck provides a first plurality of regions of a first dopant type and a second plurality of regions of a second dopant type "which is exactly what is claimed." *Id.* We disagree.

The examiner interprets the claims as "reading" on the cap layer 16 of Rosbeck, construing the claims as only requiring a substrate with p- and n-regions that are separated (see the Answer, page 4, and the final rejection of Paper No. 7, page 3). However,

the examiner has not established any reasonable belief that the claimed structure would be the same or substantially similar to that of Rosbeck. See *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). As correctly argued by appellant (Brief, pages 4-5; Reply Brief, pages 1-2), the cap layer 16 of Rosbeck is clearly a layer having the same dopant type and concentration as the base layer 14 (see Figure 2) and does not disclose or suggest a "second plurality of diffusions" as required by claim 1 on appeal.¹ Although the "second plurality of diffusions" are doped with the first dopant type, as is the substrate, the resulting structure is not the same as the cap layer 16 of Rosbeck since the "plurality of diffusions" provides an increase in concentration of the dopant at each diffusion site, with a field gradient established at some area from the diffusion dot (see Figures 12-14 and the specification, pages 39-41). See *In re Sneed*, 710 F.2d 1544, 1548, 218 USPQ 385, 388 (Fed. Cir. 1983) (In proceedings before the PTO, claims in an application are to be given their broadest reasonable interpretation consistent with the specification). Accordingly, the concentration of the "second plurality of diffusions" would not

¹The examiner applies Kataoka for the teaching of arraying the detectors in parallel connection while the detectors have multilayers (Answer, page 3). However, Kataoka does not remedy the deficiency in Rosbeck discussed above.

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be uniform throughout the layer as the concentration is in the p-region of cap layer 16 in Rosbeck.

For the foregoing reasons, we determine that the examiner has not established a *prima facie* case of obviousness in view of the reference evidence. Accordingly, we cannot sustain the examiner's rejection of claims 1-5 and 11-15 under 35 U.S.C. § 103(a) as unpatentable over Rosbeck in view of Kataoka.

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The decision of the examiner is reversed.

REVERSED

THOMAS A. WALTZ)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
ROMULO H. DELMENDO)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
)	
)	
)	
BEVERLY A. PAWLIKOWSKI)	
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