

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. 20

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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**Ex parte** TONGBI JIANG and ZHIPING YIN

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Appeal No. 2001-2315  
Application 09/145,106

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HEARD: September 7, 2002

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

FLEMING, **Administrative Patent Judge.**

**DECISION ON APPEAL**

This is a decision on appeal from the final rejection of claims 27 through 40. Claims 1 through 26 have been canceled.

The invention relates to providing a passivation layer comprising plasma polymerized methylsiloxane extending over portions of the die and the die carrier of a packaged integrated circuit device.

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Independent claim 27 is reproduced as follows:

27. A packaged integrated circuit device, comprising:

a die carrier;

an integrated circuit die mounted onto a surface of the die carrier; and

a passivation layer comprising plasma polymerized methylsiloxane extending over portions of the die and the die carrier.

#### **REFERENCES**

The references relied on by the Examiner are as follow<sup>1</sup>:

Verzaro et al. (Verzaro)	5,569,497	Oct. 29, 1996
Yew et al. (Yew)	5,956,233	Sep. 21, 1999
		(filed Dec. 19, 1997)

Biederman et al., "Plasma Polymerization Processes: Plasma Technology, volume 3, 1992, pages 183-203.

#### **REJECTION AT ISSUE**

Claims 27 through 40 stand rejected under 35 U.S.C. § 103 as being unpatentable over Yew in view of Biederman and Verzaro.

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<sup>1</sup>We note that the Examiner has cited additional references in the Examiner's answer on pages 3 and 4. However, these additional references have not been applied in the 35 U.S.C. § 103 rejection. Therefore these references are not properly before us for our consideration for the rejection of the claims under 35 U.S.C. § 103.

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Rather than repeat the arguments of Appellants or the Examiner we make reference to the briefs<sup>2</sup> and the answer for the respective details thereof.

#### OPINION

With full consideration being given to the subject matter on appeal, the Examiner's rejection and the arguments of the Appellants and the Examiner, for the reason stated *infra*, we reverse the Examiner's rejection of claims 27 through 40 under 35 U.S.C. § 103.

On pages 2 and 3 of the supplemental brief, Appellants argue that Yew does not teach a passivation layer comprising plasma polymerized methylsiloxane extending over portions of the die and the die carrier in a packaged integrated circuit device. On pages 3 and 4 of the supplemental appeal brief, Appellants argue that neither Biederman nor Verzaro suggests using a passivation layer comprising plasma polymerized methylsiloxane extending over a portion of the die and the die carrier. Appellants argue that Biederman teaches only the use of plasma polymerized organo-

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<sup>2</sup> Appellants filed an appeal brief on June 21, 2000. Appellants filed a supplemental appeal brief on December 6, 2000. Appellants filed a reply brief on April 23, 2001. The Examiner mailed an office communication on May 2, 2001, stating that the reply brief has been entered and considered.

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silicon as passivation and protective coatings in semiconductor devices, but Biederman does not disclose or suggest the use of passivation coatings on both a die and a die carrier. Appellants further argue on pages 3 and 4 of the supplemental brief that Verzaro does not teach or suggest the use of passivation coatings on both a die and a die carrier but instead teaches the use of plasma polymerization in forming a protective layer on the surface of a plastic substrate. In the reply brief, Appellants further argue that the prior art of record contains no motivation or suggestion to modify the Yew reference to use plasma polymerized methylsiloxane for a passivation layer extending over the portion of the die and the die carrier.

On page 4 of the Examiner's answer, the Examiner argues that one of ordinary skill in the art would modify the Yew reference using the Biederman and Verzaro teachings to provide stability at elevated temperatures.

As pointed out by our reviewing court, we must first determine the scope of the claim. "[T]he name of the game is the claim." **In re Hiniker Co.**, 150 F.3d 1362, 1369, 47 USPQ2d

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1523, 1529 (Fed. Cir. 1998). In addition, claims are to be interpreted as the terms reasonably allow. **In re Zletz**, 893, F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989).

We note that independent claim 27 recites "a passivation layer comprising plasma polymerized methylsiloxane extending over portions of the die and the die carrier." Furthermore, we note that claim 36 also recites "a passivation layer comprising plasma polymerized methylsiloxane extending over portions of the back sides of the die and the die carrier." Therefore all the claims do require a passivation layer made of plasma polymerized methylsiloxane which is applied over the die and the die carrier in a packaged integrated circuit device.

Using that claim interpretation, we review the rejection of claims 1 and 3 under 35 U.S.C. § 103. In rejecting claims under

35 U.S.C. § 103, the Examiner bears the initial burden of establishing a **prima facie** case of obviousness. **In re Oetiker**, 977 F.2d 1443, 1445, 24 USPQ 1443, 1444 (Fed. Cir. 1992). See also **In re Piasecki**, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984). The Examiner can satisfy this burden by showing that some objective teaching in the prior art or knowledge generally available to one of ordinary skill in the art suggests the

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claimed subject matter. **In re Fine**, 87 F.2d 1071, 1074, 5 USPQ 1596, 1598 (Fed. Cir. 1988). Only if this initial burden is met does the burden of coming forward with evidence or argument shift to the Appellants. **In re Oeticker**, 977 F.2d at 1445, 24 USPQ at 1444. **See also Piasecki**, 745 F.2d at 1472, 223 USPQ at 788.

An obviousness analysis commences with a review and consideration of all the pertinent evidence and arguments. "In reviewing the [E]xaminer's decision on appeal, the Board must necessarily weigh all the evidence and arguments." **In re Oetiker**, 977 F.2d at 1445, 24 USPQ2d at 1444. "[T]he Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion." **In re Lee**, 277 F.3d 1338, 1344, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002). With these principles in mind, we commence review of the pertinent evidence and arguments of Appellants and Examiner.

On a careful review, we find that the Examiner has failed to provide the requisite findings in Biederman and Verzaro for suggesting to one of ordinary skill in the art to use a passivation layer comprising plasma polymerized methylsiloxane extending over a portion of the die and the die carrier in a

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packaged integrated circuit device. Upon a view of Biederman we find that Biederman focuses on the use of plasma polymers in semiconductors chip fabrication and is not at all concerned with chip packaging or die and die carrier combinations. Verzaro discloses only plasma polymerization of protective coatings on plastic substrates. Again, Verzaro does not mention die and/or die carriers or is concerned with the problem of chip packaging. Therefore, we find that the Examiner has not shown that one of ordinary skill in the art would have made the modification proposed by the Examiner to the Yew reference.

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In view of the forgoing, we do not sustain the rejection of claims 27 through 40 under 35 U.S.C. § 103 as being unpatentable over Yew in view of Biederman and Verzaro. Therefore, we reversed.

**REVERSED**

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

MRF:pgg

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