

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* TAYLOR R. EFLAND,  
MILTON L. BUSCHBOM  
and SAMEER PENDHARKAR

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Appeal No. 2005-0888  
Application No. 10/039,663

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HEARD: October 25, 2005

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Before OWENS, JEFFREY T. SMITH, and PAWLIKOWSKI, *Administrative Patent Judges*.

OWENS, *Administrative Patent Judge*.

*DECISION ON APPEAL*

This appeal is from a rejection of claims 1-5, 7-9, 11, 13, 15 and 20-23. Claims 6, 10, 12 and 24-28 have been canceled. Claims 14 and 16-19 stand objected to but allowable if rewritten in independent form. Claims 29-34 have been allowed.

*THE INVENTION*

The appellants claim an integrated circuit chip having power distribution lines connected to active components thereunder by metal-filled vias. Claim 1 is illustrative:

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1. An integrated circuit chip mounted on a leadframe, said leadframe having a plurality of segments, comprising:

a network of power distribution lines deposited on the surface of said chip over active components of said circuit;

said lines connected vertically to said components by metal-filled vias, and also to said segments by conductors; and

the majority of said lines patterned as straight lines between said vias and said conductors, respectively, thereby minimizing the distance for power delivery between a selected segment and one or more corresponding active components, to which said power is to be delivered.

#### THE REFERENCES

Tani	5,468,993	Nov. 21, 1995
Yamasaki et al. (Yamasaki)	5,973,554	Oct. 26, 1999

Stanley Wolf and Richard N. Tauber (Wolf), *Silicon Processing for the VLSI Era - Volume 1: Process Technology* 857-58 (Lattice Press, 2<sup>nd</sup> ed. 2000).

#### THE REJECTIONS

The claims stand rejected as follows: claim 1 under 35 U.S.C. § 102(b) as being anticipated by Yamasaki; claims 2 and 3 under 35 U.S.C. § 103 as being obvious over Yamasaki; claims 4, 5, 7, 8, 11, 15, 20, 21 and 23 under 35 U.S.C. § 103 as being obvious over Yamasaki in view of Tani; claim 9 under 35 U.S.C. § 103 as being obvious over Yamasaki in view of Tani and the admitted prior art;

and claims 13, 20 and 22 under 35 U.S.C. § 103 as being obvious over Yamasaki in view of Tani and Wolf.<sup>1</sup>

*OPINION*

We reverse the aforementioned rejections. We need to address only the independent claims, i.e., claims 1 and 4, which require that components over which power distribution lines (claim 1) or power distributors (claim 4) are deposited are active components.

Yamasaki discloses power supply lines (4 and 5) deposited over an MOS transistor (70) (col. 8, lines 15-36; figure 2B).

The examiner argues, in reliance upon a dictionary definition which states that a transistor is "an active semiconductor device", that Yamasaki's MOS transistor is an active component (answer, pages 11-12).

An active component has been defined as:

[ELEC] In the phasor representation of quantities in an alternating-current circuit, the component of current, voltage, or apparent power which contributes power, namely, the active current, active voltage, or active power. Also known as power component. [ELECTR] See active element.<sup>[2]</sup>

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<sup>1</sup> A rejection of claim 2 under 35 U.S.C. § 102(b) is withdrawn in the examiner's answer (page 3).

<sup>2</sup> *McGraw-Hill Dictionary of Scientific and Technical Terms* 28 (Sybil P. Parker ed., McGraw-Hill 5<sup>th</sup> ed. 1994). An active element is defined as: "[ELECTR] Any generator of voltage or current in an impedance network. Also known as active component." *Id.* at 29. A copy of each dictionary definition

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and

1. An electrical or electronic element capable of controlling voltages or currents to produce gain or switching action in a circuit (e.g., transistor, vacuum tube, or saturable reactor). Also called active device, or active element. 2. A device, the output of which is dependent on a source of power other than the main input signal.<sup>[3]</sup>

A passive element has been defined as:

[ELEC] An element of an electric circuit that is not a source of energy, such as a resistor, inductor, or capacitor. Also known as passive component.<sup>[4]</sup>

and

1. A parasitic element. 2. A circuit element with no source of energy (e.g., a resistor, capacitor, inductor, etc.).<sup>[5]</sup>

Yamasaki's MOS transistor functions as a capacitor (abstract, lines 1-2; col. 8, line 58; col. 9, lines 11-12; col. 10, lines 29-30) and, therefore, is by definition a passive element or component rather than an active component. The examiner has not established that "active component", as that term would have been most broadly construed by one of ordinary skill in the art in view of the

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cited by the board is provided to the appellants with this decision.

<sup>3</sup> Rudolf F. Graf, *Modern Dictionary of Electronics* 16 (Howard W. Sams & Co. and The Bobbs-Merrill Co. 1972).

<sup>4</sup> *McGraw-Hill Dictionary*, *supra* note 2, at 1455.

<sup>5</sup> *Modern Dictionary of Electronics*, *supra* note 3, at 410.

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appellants' specification, encompasses a capacitor, or that one of ordinary skill in the art would have considered Yamasaki's capacitor to be an active component.

The examiner argues that "a transistor is an active element regardless of how it is named" (answer, page 11), which is incorrect. As indicated by the above definitions, to be an active element Yamasaki's MOS transistor must be capable of contributing power or controlling voltages or currents to produce gain or switching action. The examiner has not established that Yamasaki's MOS transistor, which has its gate connected to a power supply and both its source and drain connected to ground (col. 8, lines 28-36 and 57-67; figures 2B and 3), is capable of functioning in that manner.

The examiner, therefore, has not established a prima facie case of anticipation or obviousness of the appellants' claimed invention.<sup>6</sup>

#### *DECISION*

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<sup>6</sup> The examiner does not rely upon Tani, Wolf or the admitted prior art for any disclosure that remedies the above-discussed deficiency in Yamasaki as to the independent claims.

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The rejections of claim 1 under 35 U.S.C. § 102(b) over Yamasaki, claims 2 and 3 under 35 U.S.C. § 103 over Yamasaki, claims 4, 5, 7, 8, 11, 15, 20, 21 and 23 under 35 U.S.C. § 103 over Yamasaki in view of Tani, claim 9 under 35 U.S.C. § 103 over Yamasaki in view of Tani and the admitted prior art, and claims 13, 20 and 22 under 35 U.S.C. § 103 over Yamasaki in view of Tani and Wolf, are reversed.

*REVERSED*

TERRY J. OWENS	)	
Administrative Patent Judge	)	
	)	
	)	
	)	
	)	BOARD OF PATENT
JEFFREY T. SMITH	)	APPEALS
Administrative Patent Judge	)	AND
	)	INTERFERENCES
	)	
	)	
	)	
BEVERLY A. PAWLIKOWSKI	)	
Administrative Patent Judge	)	

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APPEAL NO. - JUDGE KRATZ  
APPLICATION NO.

APJ KRATZ

APJ

APJ

DECISION: **ED**

Prepared By:

**DRAFT TYPED:** 25 Nov 05

**FINAL TYPED:**