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3:04-CV-00812 INFINEON TECH AG V. WISCONSIN ALUMNI

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CLERK, U.S. DISTRICT COURT  
SOUTHERN DISTRICT OF CALIFORNIA

BY: SD

DEPUTY *[Signature]*

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11 UNITED STATES DISTRICT COURT  
12 SOUTHERN DISTRICT OF CALIFORNIA

13 INFINEON TECHNOLOGIES AG,  
14 a Germany corporation, INFINEON  
15 TECHNOLOGIES NORTH AMERICA  
16 CORP., a Delaware corporation,

17 Plaintiffs,

18 v.

19 WISCONSIN ALUMNI RESEARCH  
20 FOUNDATION, a Wisconsin corporation,

21 Defendant.

22 CASE NO. '04 CV 0812 WQH (LS)

23 COMPLAINT FOR DECLARATORY  
24 JUDGMENT OF NON-INFRINGEMENT,  
25 INVALIDITY AND UNENFORCABILITY OF  
26 U.S. PATENT NO. 4,630,094

27 JURY TRIAL DEMANDED

28 ORRICK  
HERRINGTON  
& SUTCLIFFE LLP  
SILICON VALLEY

DOCSSV1:266525.1

COMPLAINT AND DEMAND FOR JURY TRIAL  
(No.)

CR

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1 Plaintiffs Infineon Technologies AG ("Infineon") and Infineon Technologies  
2 North America Corp. ("IFNA") hereby demand a jury trial and for its complaint against  
3 Wisconsin Alumni Research Foundation ("WARF") allege as follows:

4 **NATURE OF THE ACTION**

5 1. This is an action for declaratory relief arising under the Patent Act of the  
6 United States, 35 U.S.C. § 271 *et seq.* regarding non-infringement, invalidity and unenforceability  
7 of U.S. Patent No. 4,630,094 ("the '094 patent"), a copy of which is attached hereto as Exhibit A.

8 **JURISDICTION**

9 2. This Court has jurisdiction over this action pursuant to 28 U.S.C. §§ 1331,  
10 1332(a)(2) and 1338(a). In addition to federal question jurisdiction, this is also a civil action  
11 between citizens of a State and citizens or subjects of a foreign state for purposes of 28 U.S.C.  
12 § 1332(a)(3) because Infineon, IFNA and WARF are of diverse citizenship:

- 13 a. At all times relevant herein, Infineon is and has been a Germany
- 14 corporation having a place of business in Munich, Germany;
- 15 b. At all times relevant herein, IFNA is and has been a Delaware corporation
- 16 having a place of business in San Jose, California
- 17 c. On information and belief, at all time relevant herein and at the time that
- 18 this action is commenced, WARF is a Wisconsin corporation with its
- 19 headquarters in Madison, Wisconsin;
- 20 d. On information and belief, the amount in controversy at issue in this
- 21 lawsuit exceeds \$ 75,000.00, exclusive of interest and costs.

22 **VENUE**

23 3. Venue is proper in this district under 28 U.S.C. §§ 1391 (b) and (c). On  
24 information and belief, WARF maintains an office at 4350 La Jolla Village Drive, San Diego  
25 California.

26 4. The function of WARF's San Diego office is to conduct "license  
27 negotiations with . . . California-based companies" and to "generate greater licensing revenues for  
28 WARF and the university [of Wisconsin]" from companies and customers on the West Coast. A

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COMPLAINT AND DEMAND FOR JURY  
TRIAL  
(No.)

1 copy of the October 21, 2002 WARF press release announcing the California office is attached as  
2 Exhibit B.

3 5. According to the University of Wisconsin newspaper, WARF's licensing  
4 associate resident in San Diego, "is working with companies, universities and industry customers  
5 all along the West Coast to find organizations who can fund application-oriented research  
6 involving UW-Madison technologies." A copy of the October 22, 2002 article from *The Daily*  
7 *Cardinal* reporting on WARF's San Diego office is attached as Exhibit C.

8 6. Personal jurisdiction and venue over WARF is proper in this district.

9 **THE PARTIES**

10 7. Infineon is a leading innovator in the international semiconductor industry  
11 and develops, manufactures and markets a broad range of semiconductors and complete system  
12 solutions for the wireless and wireline communications, automotive, industrial, computer,  
13 security and chip card industries. Infineon has its principal place of business in Munich,  
14 Germany.

15 8. IFNA is a Delaware corporation and is a major provider of semiconductor  
16 and memory products for automotive and industrial uses, wireline communications, computers  
17 and secure mobile solutions. IFNA has its principal place of business in San Jose, California.

18 **FACTUAL BACKGROUND**

19 9. By letter dated June, 12, 2002, WARF informed Infineon of its patent, U.S.  
20 Patent No. 4,630,094, entitled "Use of Metallic Glasses for Fabrication of Structures with  
21 Submicron Dimensions" and offered to furnish Infineon with a license to the '094 patent (and  
22 other related patents) under particular terms and conditions. Infineon did not accept the license as  
23 offered.

24 10. In February of 2004, Infineon representatives met with counsel for WARF  
25 in Munich. At this meeting, WARF alleged that at least one of Infineon's semiconductor devices,  
26 the PMB 7850E, infringed certain claims of the '094 patent. The PMB 7850E and other Infineon  
27 products are distributed in the United States by IFNA. WARF again demanded a license from  
28 Infineon, but Infineon did not agree to take a license under the terms then presented by WARF.

1 Negotiations and discussions continued between Infineon and WARF over the next several  
2 weeks.

3 11. On or about April 9, 2004, counsel for WARF informed Infineon that  
4 WARF intended to file infringement suits against one or more entities who had not taken a  
5 license to the '094 patent and indicated that Infineon would be one of the entities against whom  
6 WARF would bring an action.

7 12. Despite good faith negotiations, the parties were unable to resolve this  
8 dispute, and Infineon and IFNA now have a reasonable apprehension that WARF will shortly file  
9 a patent infringement action against them based on the '094 patent.

10 13. Infineon and IFNA therefore seek a Declaratory Judgment from this Court  
11 that at least the PMB 7850E device does not infringe the '094 patent and that the '094 patent is  
12 invalid and unenforceable.

13 **COUNT ONE**  
14 **For Declaratory Relief of Non-Infringement and Invalidity of WARF's**  
15 **U.S. Patent No. 4,630,094**

16 14. Plaintiffs Infineon and IFNA reallege and repeat the allegations of  
17 paragraphs 1 - 13 as through fully set forth herein.

18 15. On information and belief, U.S. Patent No. 4,630,094 was issued by the  
19 U.S. Patent and Trademark Office. The '094 patent names John D. Wiley and John H. Perepezko  
20 as inventors and WARF as assignee. The '094 patent is purportedly directed to semiconductors  
21 containing amorphous metals. A copy of the '094 patent is attached hereto as Exhibit A.

22 16. By letters and meetings, WARF informed Infineon of WARF's claims that  
23 one or more of Infineon's products are covered by the '094 patent and require a license under the  
24 '094 patent. Infineon and IFNA now have a reasonable apprehension that WARF will file a  
25 patent infringement action based on the '094 patent against Infineon and IFNA.

26 17. Infineon and IFNA contend that the '094 patent is invalid and  
27 unenforceable, and deny that their products infringe any valid claim of the '094 patent.

28 18. Accordingly, Infineon and IFNA seek a Declaratory Judgment from this  
Court under Fed. R. Civ. P. 57 and 28 U.S.C. §2201 declaring the '094 patent to be invalid and

1 unenforceable, for failure to comply with Title 35 U.S.C. §§ 102 and 103, that the claimed subject  
2 matter is not patentable over the prior art.

3 19. Infineon and IFNA also seek a Declaratory Judgment from this Court under  
4 under Fed. R. Civ. P. 57 and 28 U.S.C. §2201 declaring the '094 patent to be invalid and  
5 unenforceable for failure to comply with the claiming requirements of Title 35 U.S.C. §112.

6 20. Infineon and IFNA also seek a Declaratory Judgment from this Court  
7 under under Fed. R. Civ. P. 57 and 28 U.S.C. §2201 declaring the '094 patent to be not infringed  
8 by Infineon or IFNA, and granting Infineon and IFNA all other declaratory relief to which it may  
9 be entitled.

10 **PRAYER FOR RELIEF**

11 WHEREFORE, plaintiffs Infineon and IFNA pray for:

- 12 A. A judicial declaration that Infineon and IFNA have not infringed and are
- 13 not infringing any valid claims of WARF's U.S. Patent No. 4,630,094;
- 14 B. A judicial declaration that WARF's U.S. Patent No. 4, 630,094 is invalid
- 15 and unenforceable;
- 16 C. A determination that this case is exceptional under 35 U.S.C. § 285 and an
- 17 award of attorneys' fees to Infineon and IFNA;
- 18 D. Any and all equitable relief to which Infineon and IFNA are entitled;
- 19 E. An award to plaintiffs Infineon and IFNA of all other and further relief to
- 20 which it may be entitled; and
- 21 F. Such other relief as the Court deems just and equitable.

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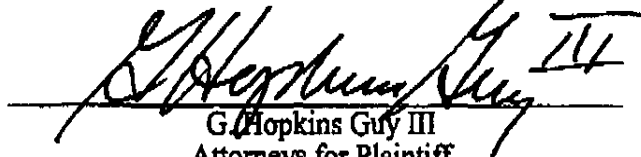
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**JURY DEMAND**

Infineon and IFNA demand a trial by jury of all issues so triable.

Dated: April 19, 2004.

G. HOPKINS GUY III  
MELISSA A. FINOCCHIO



G. Hopkins Guy III  
Attorneys for Plaintiff  
INFINEON TECHNOLOGIES AG  
INFINEON TECHNOLOGIES NORTH AMERICA  
CORP.

**EXHIBIT A**



**United States Patent** [19]

Wiley et al.

[11] Patent Number: **4,630,094**

[45] Date of Patent: **Dec. 16, 1986**

[54] **USE OF METALLIC GLASSES FOR FABRICATION OF STRUCTURES WITH SUBMICRON DIMENSIONS**

[75] Inventors: John D. Wiley, John H. Perekosz, both of Madison, Wis.

[73] Assignee: Wisconsin Alumni Research Foundation, Madison, Wis.

[21] Appl. No.: 709,836

[22] Filed: Mar. 8, 1985

**Related U.S. Application Data**

[63] Continuation of Ser. No. 181,988, Aug. 28, 1980, abandoned.

[51] Int. Cl.<sup>4</sup> ..... HB1L 23/48

[52] U.S. Cl. .... 357/67; 357/65; 357/68; 357/71; 428/923

[58] Field of Search ..... 428/573, 574, 575, 601, 428/606, 607, 901, 923, 620; 357/2, 71, 67, 68, 65; 365/34, 39, 163

[56] **References Cited**

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Primary Examiner—Melvyn J. Andrews

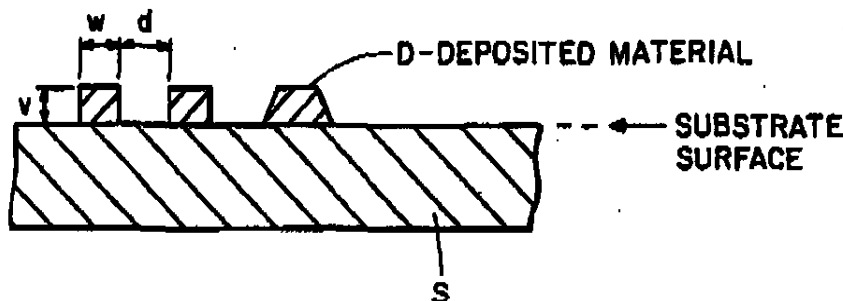
Assistant Examiner—John J. Zimmerman

Attorney, Agent, or Firm—Howard W. Bremer

[57] **ABSTRACT**

Patterned structures of submicron dimension formed of supported or unsupported amorphous metals having submicron feature sizes characterized by etching behavior sufficient to allow delineation of sharp edges and smooth flat flanks, resistance to time-dependent dimensional changes caused by creep, flow, in-diffusion of unwanted impurities, out-diffusion of constituent atoms, void formation, grain growth or phase separation and resistance to phase transformations or compound formation.

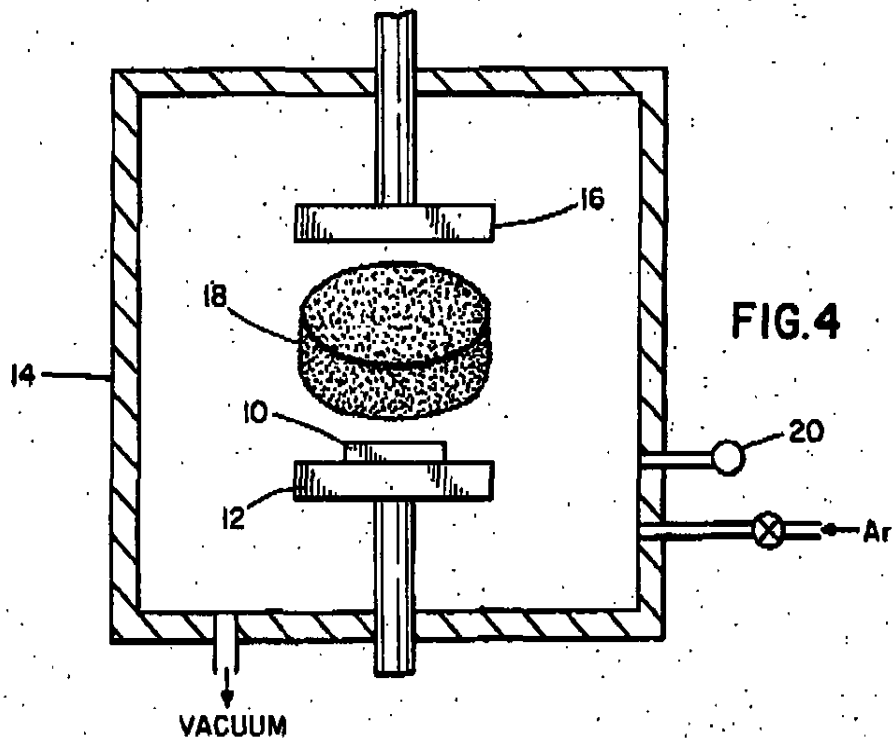
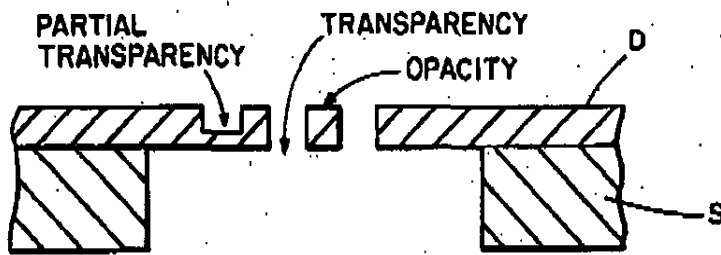
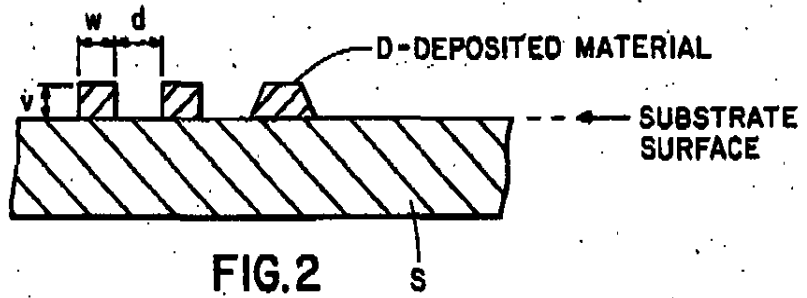
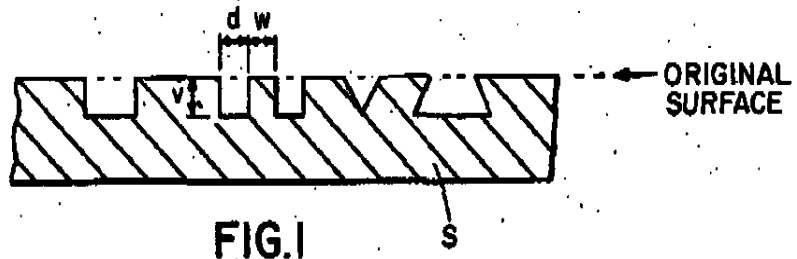
15 Claims, 4 Drawing Figures



U.S. Patent

Dec. 16, 1986

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## USE OF METALLIC GLASSES FOR FABRICATION OF STRUCTURES WITH SUBMICRON DIMENSIONS

This application is a continuation of application Ser. No. 181,988, filed Aug. 28, 1980, now abandoned.

This invention relates to structures of submicron dimensions and to methods and materials used in the manufacture of same.

Methods and techniques have recently been made available to produce mechanical structures with lateral and/or vertical spatial dimensions of less than  $1\ \mu\text{m}$  ( $\lesssim 1\ \mu\text{m}$ ). Such techniques include electron beam and X-ray lithography.

The invention will be illustrated with reference to the accompanying drawings in which:

FIGS. 1, 2 and 3 depict various procedures for producing structures embodying the features of this invention; and

FIG. 4 is a diagrammatic view of an apparatus which can be used for deposition of an amorphous metal onto a substrate.

Structures that can be produced can be illustrated, but are not limited to the following:

- (1) Holes, channels, grooves or other concave surface relief features formed in a planar surface of a solid specimen or substrate, as illustrated in FIG. 1 of the drawings, where the lower limits for  $v$ ,  $d$  and  $w$  may be less than  $1\ \mu\text{m}$  ( $\lesssim 1\ \mu\text{m}$ ) and the substrate (S) may be any solid material susceptible to etching by chemical, electrochemical, plasma, ion beam or other controlled erosive technique.
- (2) Mesas, stripes, islands or other convex surface relief structures consisting of a metal deposited on and adherent to a planar surface of a solid substrate specimen, as illustrated in FIG. 2, where the lower limits for  $v$ ,  $d$  and  $w$  may be less than  $1\ \mu\text{m}$  ( $\lesssim 1\ \mu\text{m}$ ) and the deposited material D may be any solid material capable of being deposited on the substrate, as by evaporation, sputtering, chemical vapor deposition, rapid freezing electroplating, electroless plating, and other vapor or liquid deposition techniques in which D may be of the same or different chemical composition or microstructure as S.
- (3) Combinations of 1 and 2 produced respectively in and on the same substrate to achieve a desired lateral structure.
- (4) Combinations of 1 and 2 applied in sequence to achieve a desired vertical structure, including the possibility of including more than 1 layer of patterned material, as by the techniques of 1 and 2.
- (5) Self supported or edge supported thin film structures containing features which are transparent, translucent or opaque to photons or particles of appropriate energies as illustrated in FIG. 3.

The patterned structures described have a number of important applications including, but not limited to:

- (a) production of metallization patterns for transistors, integrated circuits, surface acoustic-wave devices, magnetic bubble devices, superconducting devices, semi-conductors, and other discrete or integrated arrays of electrical devices;
- (b) production of patterned arrays of metal interconnects, semi-conductor devices, and semi-conducting or insulating optical waveguides in integrated optical systems;

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- (c) production of master masks and replica masks for lithographic applications;
- (d) production of diffraction gratings;
- (e) production of Fresnel zone plates;
- (f) production of optical, chemical or biological filters as in films having a large number of small holes, such as formed on a supporting substrate of rock salt which is subsequently dissolved away;
- (g) production of fine-scale surface structures for enhanced surface activity or catalytic behavior.

In accordance with the practice of this invention, materials S and/or D are metals for reasons of electrical conductivity, thermal conductivity, magnetic behavior, mechanical strength, bondability, opacity, reflectivity or combinations of such properties.

There are a number of factors that determine the minimum feature sizes achievable for  $v$ ,  $d$  and  $w$ , as defined in FIGS. 1-3. These include wavelengths of radiation or the energy of particles used in the exposure; quality of the optics in the exposure system; exposure and development characteristics of the resist material, and the quality, feature sizes and transmission characteristics of the mask, when used.

This invention concerns itself with the patterned material S and D, the properties of which beneficially affect the quality, stability and ultimate spatial resolution of the final structure, including the etching behavior sufficient to allow the delineation of sharp edges, and smooth flat flanks in which the etch rate is controllable and spatially uniform over large distances in order to produce uniform cuts; resistance to time-dependent dimensional changes caused by creep, flow, in-diffusion of unwanted impurities, out-diffusion of constituent atoms, void formation, grain growth, phase separation, or other mechanisms controlled by diffusion transport; and resistance to phase transformations or compound formation.

Conventional metals perform adequately for S and D metals in applications in which the minimum feature sizes are greater than  $1\ \mu\text{m}$  ( $\gtrsim 1\ \mu\text{m}$ ). Such conventional metals generally fail in many applications requiring features sizes of less than  $1\ \mu\text{m}$  ( $\lesssim 1\ \mu\text{m}$ ). Such failures stem primarily from the fact that conventional microscopic metal substrates and deposited films of such conventional metals have a polycrystalline microstructure. During etching (wet chemical or ion erosive) the grain boundaries between crystallites become etched at higher rates than the single crystal surfaces. It has been found, in some instances, that the etch rates vary from one crystallite to the next, depending somewhat on the crystallographic orientation of the exposed face. Under such circumstances, it has been found that good edge-definition requires fine-grained metals having a grain size smaller as compared to the desired feature size for  $v$ ,  $d$  and  $w$ . The high concentration of grain boundaries in finely crystalline metals makes long term stability of the structure very unlikely for the following reasons:

- (1) The high interfacial energy of grain boundaries makes the system unstable against grain growth with its attendant changes in microscopic geometry and dimensions.
- (2) Grain boundaries and crystal dislocations provide paths of high diffusion rates for impurities and vacancies, often leading to the formation of voids, inclusions, hillocks and grooves. Impurities introduced via diffusion along grain boundaries or crystal dislocations can cause growth of intermetallic compounds.

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Out-diffusion impurities can accumulate on the surfaces as new phases.

(3) The presence of grain boundaries or crystal dislocations in electrical current-carrying metals leads to enhanced electromigration and ultimately to catastrophic failure of the metal.

The problems described above become more severe as the dimensions of the microstructure are reduced.

These problems are overcome, in accordance with the practice of this invention, by the use of amorphous (glassy) phase metals in the fabrication of structures having submicron feature sizes. Such amorphous phase metals contain no grain boundaries or other microscopic inhomogeneities which could cause anisotropic or locally enhanced etching, and exhibit no crystalline order beyond a distance scale of 10-20 Å. The ultimate limit to edge definition achievable with such glassy phase metals is set by the size of the microscopic composition fluctuations which can be estimated to be on the order of 40 Å or less. The benefits will be retained to a large degree in materials consisting of a random distribution of crystallites separated from one another by the amorphous matrix as long as the volume fraction of crystallites is not more than 25% (preferably less than 10%), and the temperature is well below  $T_g$ .

Diffusion transport is exceptionally slow in glassy metals below the glass transition temperature  $T_g$ . As a result, the time-constant for creep, phase separation, or crystallization is effectively infinite on a laboratory time scale despite the fact that the glass phase is only kinetically metastable. Using shear viscosity  $\eta$  as an example, at  $T = T_g \eta \approx 10^{13}$  poise, and  $\eta$  rises to much higher values below  $T_g$  for typical glassy metals. These viscosities correspond to creep-relaxation times of  $\approx 16$  minutes at  $\eta = 10^{15}$  p and hundreds of years at temperatures well below  $T_g$ . Glassy metals are mechanically, compositionally, and structurally stable at all practical temperatures to which they normally would be exposed in use. Impurity diffusion is considerably slower as compared to crystalline or polycrystalline metals since the diffusion in the latter is usually dominated by rapid diffusion along crystal dislocations or grain boundaries which are absent in glassy metals.

Amorphous metal systems that can be used in the practice of this invention are characterized by compositions having the general formula  $T_xN_{1-x}$  in which  $x \approx 0.8$ , T is a transition metal and N is a polyvalent normal metal or metalloid as represented by  $Pd_{0.8}Si_{0.2}$ ;  $Au_{0.8}Ge_{0.2}$ ;  $Co_{0.8}B_{0.2}$ .

Use can also be made of pseudobinary compositions represented by the formula  $(T_1)_x(T_2)_{0.8-x}N_{0.2}$ , including even more complex substituted systems as well as systems containing only one or more transition metals as represented by Nb-Ni, which can be formed into sputtered glassy films.  $T_g \approx 630^\circ C.$ , over the extraordinary composition range of  $0.2 \approx x \approx 0.8$ .

Amorphous metals can be produced by rapid quench from the liquid or vapor phase. With metals having glass forming tendencies, sufficiently rapid vapor quench, amorphous metal films can be produced by conventional sputtering techniques.

Glassy or amorphous metals have room temperature electrical and thermal conductivities which are only slightly less than corresponding crystalline transition metals such that they behave electrically as normal metals. When these properties are coupled with the structural advantages, amorphous or glassy metals find advantageous use in a wide variety of mechanical and

/or electrical devices calling for metallizations containing submicron features.

Having described the basic concepts of the invention, the following is given by way of illustration, but not by way of limitation.

Deposition of amorphous metal to provide the layer 8 in FIG. 1, the deposits D in FIG. 2, or the thin film in FIG. 3, can be effected in a number of ways, such as described in our copending application Ser. No. 81,859, filed Oct. 4, 1979, and entitled "Highly Reliable Metal Contacts for High Temperature Semi Conductor Application".

As illustrated in the drawing, a surface 10, on which the amorphous metal is to be deposited, is supported on an anode 12 housed within a sealed vacuum chamber 14 which is backfilled with inert gas, such as argon, to a pressure of from 1-50 Torr. A cathode 16 is mounted within the sealed chamber in spaced parallel relation to the anode.

The metal or alloy to be deposited in the amorphous state on the surface 10, such as  $Pd_{0.8}Si_{0.2}$  or  $Co_{0.8}B_{0.2}$ , is arranged on the face of the cathode. At a power level of 1 KW, the argon is ionized, causing a glow discharge 18 between the cathode 16 and the anode 12. Such argon ions are attracted to the cathode where they are effective to knock loose atoms of the metal or alloy. The dislodged atoms travel to the anode where some of them strike and adhere to the surface 10.

In the event that the temperature conditions are such as ordinarily to raise the anode above desirable levels, a coolant such as water or glycol can be circulated through the anode and surface so that only amorphous metal will be deposited on the surface.

When it is desirable to restrict amorphous metal deposition to mesas, stripes, or other convex surface relief structures, as illustrated in FIG. 2, the surface is covered with a mask having the desired openings through which the displaced atoms can pass for deposition in the desired pattern onto the surface. Alternatively, standard photolithographic techniques can be used to pattern continuously deposited films (i.e. films which initially cover the entire underlying substrate in a continuous fashion).

In the event that a thin film of amorphous metal is desired to be deposited onto the surface, the entire surface is exposed for amorphous metal deposition for use in subsequent treatment, such as etching by chemical, electrochemical, plasma, ion beam or other known erosive techniques for metal removal to form holes, channels, grooves or other concave surface-relief feature as illustrated in FIG. 1, or the film can be removed as a self-supporting film of amorphous metal and process as described above to provide features which are transparent, translucent or opaque to photons or particles of appropriate energy, as illustrated in FIG. 3.

The deposition process described is generally referred to as a DC Getter sputtering system. Instead, use can be made of RF sputtering for amorphous metal deposition by sputtering from composite electrodes.

In the DC system, the cathode, anode and surface are enclosed in a sealed chamber. Depositions can be carried out at argon or other inert gas pressures in the range described and at a power level of less than 1 KW ( $\approx 1$  KW). The RF system allows higher sputtering rates at relatively low inert gas pressures, such as less than 5 Torr ( $\approx 5$  Torr). RF sputtering produces a more uniform film, especially when use is made of a cathode of relatively large dimension.

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Other methods for deposition of amorphous metals onto a screened surface for producing structures of the type illustrated in FIG. 2, or thin films for use in producing structures illustrated in FIGS. 1 and 3, include evaporation from composite sources.

We claim:

1. Patterned structures in contact with semiconductor regions having physical, geometric features of submicron dimension formed of amorphous metals having submicron feature sizes characterized by etching behavior sufficient to allow delineation of sharp edges and smooth flat flanks and without grain boundaries or other microscopic inhomogeneities which could cause anisotropic or locally enhanced etching.

2. Patterned structures of submicron dimension as claimed in claim 1 characterized by resistance to time-dependent dimensional changes caused by creep, flow, in-diffusion of unwanted impurities, out-diffusion of constituent atoms, void formation, grain growth or phase separation.

3. Patterned structures of submicron dimension as claimed in claim 1 characterized by resistance to phase transformations or compound formation.

4. Patterned structures of submicron dimension as claimed in claim 1 in which the amorphous metal is characterized by a lack of crystallinity on a distance scale of 10-20 angstroms.

5. Patterned structures of submicron dimension as claimed in claim 1 in which the amorphous metal has a binary composition having the formula  $T_xN_{1-x}$  in which  $x$  is approximately 0.8,  $T$  is a transition metal and  $N$  is a normal metal or metalloid.

6. Patterned structures of submicron dimension as claimed in claim 5 in which  $T$  is selected from the group consisting of Pd, Au and Co.

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7. Patterned structures of submicron dimension as claimed in claim 5 in which  $N$  is selected from the group consisting of Si, Ge and B.

8. Patterned structures of submicron dimension as claimed in claim 1 in which the amorphous metal has a pseudobinary composition having the formula  $(T_1)_n(T_2)_{1-n}N_2$  in which  $T_1$  and  $T_2$  are transition metals,  $N$  is a normal metal or metalloid and  $0.2 \leq n \leq 0.8$ .

9. Patterned structures of submicron dimension as claimed in claim 8 in which  $T_1$  and  $T_2$  are selected from the group consisting of Pd, Au and Co.

10. Patterned structures of submicron dimension as claimed in claim 8 in which  $N$  is selected from the group consisting of Si, Ge and B.

11. Patterned structures of submicron dimension as claimed in claim 1 in which the patterned structure is in the form of holes, channels, grooves or other recessed surface features formed in a planar surface of an amorphous metal layer.

12. Patterned structures of submicron dimension as claimed in claim 1 in which the patterned structure is in the form of mesas, stripes, islands or other raised structures of amorphous metal bonded onto the surface of a substrate.

13. Patterned structures of submicron dimension as claimed in claim 1 in which the patterned structure is a combination of holes, channels, grooves or other recessed surface features and mesas, stripes, islands or other raised structures.

14. Patterned structures of submicron dimension as claimed in claim 1 in which the patterned structure is a combination of holes, channels, grooves or other recessed surface features in a first layer and mesas, stripes, islands or other raised structures in a second layer.

15. Patterned structures of submicron dimension as claimed in claim 1 in which the amorphous metal contains crystallites in a volume fraction not exceeding 25%.

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**EXHIBIT B**



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CONTACT: Andrew Cohn; 608-263-2821; cohn@warf.ws

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## WARF WEST COAST OFFICE OPENS FOR BUSINESS

**MADISON** - The patent and licensing organization of the University of Wisconsin-Madison has become the first university technology-transfer institution in the United States to launch a satellite office.

The Wisconsin Alumni Research Foundation (WARF) has opened a West Coast branch in San Diego, Calif. The office - located on La Jolla Village Drive - is minutes from the University of California-San Diego, the Scripps Research Institute and, most importantly, a strip along North Torrey Pines Road that boasts one of the largest concentrations of biotechnology and pharmaceutical companies in southern California.

"We've situated ourselves in one of the main hubs of the California biotech industry precisely so our West Coast licensing associate will spend as little time in the office as possible," says licensing manager Paul Radspinner, who oversees the endeavor from WARF's Madison headquarters.

"First and foremost," he says, "we'll measure our initial success by the number of face-to-face contacts we make with WARF's Industry customers all along the West Coast."

Licensing associate Matt Bohlman, who holds a degree in biochemistry and is pursuing an MBA, staffs the San Diego location. Previously, Bohlman worked at WARF negotiating license agreements with universities and companies on stem cells and other medically important cell lines.

Since the office opened in mid-September, Bohlman has started on-site license negotiations with several California-based companies. When the time comes to decide the specifics of a license agreement, WARF's Madison team will conduct the final negotiations and legal review needed to close the deal.

"That's the model for how this office will operate to generate greater licensing revenues for WARF and the university," says Radspinner. "We want to take full advantage of the location by having Matt constantly meeting with customers and trying to match their needs with UW-Madison technologies. When it's time for final negotiations, he'll hand the deals off to our Madison staff, which frees him to get out and visit more companies."

A private, non-profit Institution, WARF patents technology developed by UW-Madison researchers and licenses it to Industry for commercialization. WARF then returns much of the royalty revenues to the university to fund further scientific discovery.

###

- Madeline Fisher; mmfisher@warf.ws; 608-265-9861

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## News

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### WARF opens new location in San Diego

By Paul Medenwaldt

Published: Tuesday, October 22, 2002

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The Wisconsin Alumni Research Foundation, the organization that patents and licenses all the discoveries resulting from UW-Madison research, recently became the first technology-transfer organization to launch a satellite office with the opening of a West Coast branch.

Paul Radspinner, who manages the new San Diego, office from WARF's headquarters in Madison, said the new office has seen early signs of success.

"We've situated ourselves in one of the main hubs of the California biotech industry precisely so our West Coast licensing associate will spend as little time in the office as possible," Radspinner said.

Matt Bohman, a WARF licensing associate, is working with companies, universities and industry customers all along the West Coast to find organizations who can fund application-oriented research involving UW-Madison technologies.

"The successes we have from a licensing aspect at WARF are really directly tied to the type of technology and type of research that goes on at UW-Madison," Bohman said.

The focus of the new branch, which has been operating since mid-September, is to make face-to-face contacts with industry customers.

"That is really why we are out here," Bohman said.

Direct contact with customers is one reason that many at WARF are enthusiastic about the new branch.

"That is the model for how this office will operate to generate greater licensing revenues for WARF and the university," Radspinner said. "We want to take full advantage of the location by having [Bohman] constantly meeting with customers and trying to match their needs with UW-Madison technologies."

Radspinner's optimism about generating funds for further research at the university is shared by Andrew Cohn, who does public relations for WARF.

"If it is as successful as we think, it will return money to WARF, which will then be donated to the university to upgrade research programs available to students,"

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Cohn said.

Research programs at UW-Madison have already provided more than 1,200 technologies and inventions for Bohlman to present along the West Coast. Everything from biotechnologies to physical science technologies are among WARF's focus in the new San Diego office, Cohn said.

"They are as varied as the mind can imagine," he said.

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AO 120 (3/85)

<b>TO:</b> Commissioner of Patents and Trademarks Washington, D.C. 20231	<b>REPORT ON THE                  FILING OR DETERMINATION OF AN                  ACTION REGARDING A PATENT</b>
--	--

In compliance with the Act of July 19, 1952 (66 Stat. 814; 35 U.S.C. 290) you are hereby advised  
 that a court action has been filed on the following patent(s) in the U.S. District Court:

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
04CV0812WQH(LSP)	04/19/04	United States District Court, Southern District of California
PLAINTIFF Infineon Tech		DEFENDANT Wisconsin Alumni
PATENT NO.	DATE OF PATENT	PATENTEE
1 4,630,094	12/16/86	John D. Wiley
2		
3		
4		
5		

In the above-entitled case, the following patent(s) have been included:

DATE INCLUDED	INCLUDED BY			
	<input type="checkbox"/> Amendment	<input type="checkbox"/> Answer	<input type="checkbox"/> Cross Bill	<input type="checkbox"/> Other Pleading
PATENT NO.	DATE OF PATENT	PATENTEE		
1				
2				
3				
4				
5				

In the above-entitled case, the following decision has been rendered or judgment issued:

DECISION/JUDGMENT		
CLERK	(BY) DEPUTY CLERK	DATE

Copy 1 - Upon initiation of action, mail this copy to Commissioner Copy 3 - Upon termination of action, mail this copy to Commissioner  
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JS 44 (Rev. 3/99)

### CIVIL COVER SHEET

The JS-44 civil cover sheet and the information contained herein neither replace nor supplement the filing and service of pleadings or other papers as required by law, except as provided by local rules of court. This form, approved by the Judicial Conference of the United States in September 1974, is required for the use of the Clerk of Court for the purpose of initiating the civil docket sheet. (SEE INSTRUCTIONS ON THE REVERSE OF THE FORM.)

<b>I. (a) PLAINTIFFS</b> INFINEON TECHNOLOGIES AG, a German corporation, INFINEON TECHNOLOGIES NORTH AMERICA CORP., a Delaware corporation.	<b>DEFENDANTS</b> WISCONSIN ALUMNI RESEARCH FOUNDATION, a Wisconsin corporation
(b) County of Residence of First Listed Plaintiff <u>Munich, Germany</u> (EXCEPT IN U.S. PLAINTIFF CASES)	County of Residence of First Listed Defendant <u>Madison, Wisconsin</u> (IN U.S. PLAINTIFF CASES ONLY) NOTE: IN LAND CONDEMNATION CASES, USE THE LOCATION OF THE LAND INVOLVED.
(c) Attorney's (Firm Name, Address, and Telephone Number) G. HOPKINS GUY III (State Bar No. 124811) MELISSA A. FINOCCHIO (State Bar No. 150632) ORRICK, HERRINGTON & SUTCLIFFE LLP 1000 Marsh Road, Menlo Park, CA 94025 Telephone: (650) 614-7400	Attorneys (If Known) _____ DEPUTY _____  <b>'04 CV 0812 WQH (LSP)</b>

<b>II. BASIS OF JURISDICTION</b> (Place an "X" in One Box Only)	<b>III. CITIZENSHIP OF PRINCIPAL PARTIES</b> (Place an "X" in One Box for Plaintiff and One Box for Defendant)
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<b>IV. NATURE OF SUIT</b> (Place an "X" in One Box Only)					
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  3 Remanded from Appellate Court   
  4 Reinstated or Reopened   
 Transferred from another district  5 (specify) \_\_\_\_\_   
  6 Multidistrict Litigation   
 Appeal to District Judge from Magistrate Judgment  7

**VI. CAUSE OF ACTION** (Cite the U.S. Civil Statute under which you are filing and write brief statement of cause. Do not cite jurisdictional statutes unless diversity.)

Declaratory Judgment of Non-Infringement, Invalidity and Unenforceability of U.S. Patent No. 4,630,094  
35 U.S.C. § 271

**VII. REQUESTED IN COMPLAINT:**  CHECK IF THIS IS A CLASS ACTION UNDER F.R.C.P. 23    DEMAND \$0.00    CHECK YES only if demanded in complaint: JURY DEMAND:  Yes  No

**VIII. RELATED CASE(S) IF ANY** (See instructions): JUDGE \_\_\_\_\_ DOCKET NUMBER \_\_\_\_\_

DATE: April 19, 2004    SIGNATURE OF ATTORNEY OF RECORD: *G. Hopkins Guy III*

RECEIPT # \_\_\_\_\_ AMOUNT \_\_\_\_\_ APPLYING IFF \_\_\_\_\_ JUDGE \_\_\_\_\_ MAG. JUDGE \_\_\_\_\_

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