CLAIMS

1. A getter structure, comprising:

a substrate, wherein the substrate is a semiconductor material;

a plurality of nucleation sites formed of a seed material on a surface of the substrate; and

a plurality of getter material members projecting outwardly from the nucleation sites,

wherein the seed material is tungsten, tantalum, titanium-tungsten, vanadium, zirconium, ruthenium, molybdenum, hafnium, chromium, or an oxide thereof.

2. The getter structure recited in claim 1 wherein the seed material is formed on a region of the surface having a predetermined surface area and wherein the nucleation sites have an average height over the predetermined surface of less than one molecule thick.

3. The getter structure recited in claim 2 wherein the getter material is titanium.

4. A vacuum packaged electronic device structure, comprising:

a first substrate;

a second substrate vacuum bonded to the first substrate having a plurality of nucleation sites formed of a seed material on a surface of the second substrate; and

a plurality of getter material members projecting outwardly from nucleation site, wherein the second substrate is a semiconductor material and the seed material is tungsten, tantalum, titanium-tungsten, vanadium, zirconium, ruthenium, molybdenum, hafnium, chromium, or an oxide thereof.

5. The getter structure recited in claim 4 wherein the seed material is formed on a region of the surface and wherein the nucleation sites have an average height over the predetermined surface of less than one molecule thick.

6. The getter structure recited in claim 5 wherein the getter material is titanium.

7. A method for forming a getter structure, comprising:

forming a plurality of nucleation sites of a seed material on a surface of the structure; and

forming a plurality of getter material members projecting outwardly from the

nucleation sites,

wherein the surface of the structure is a semiconductor material and the seed material is tungsten, tantalum, titanium-tungsten, vanadium, zirconium, ruthenium, molybdenum, hafnium, chromium, or an oxide thereof.

8. The method recited in claim 7 wherein the seed material is formed on a region of the surface having a predetermined surface area and wherein the nucleation sites have an average height over the predetermined surface of less than one molecule thick.

9. The method recited in claim 8 wherein the getter material is titanium.

10. A method for forming a getter structure, comprising:

depositing a layer of seed material on a surface of a structure under conditions to form a plurality of nucleation sites on a surface of the structure; and

subsequently depositing a getter material over the surface to form a plurality of getter material members projecting outwardly from the nucleation sites,

wherein the surface of the structure is a semiconductor material and the seed material is tungsten, tantalum, titanium-tungsten, vanadium, zirconium, ruthenium, molybdenum, hafnium or chromium.

11. The method recited in claim 10 wherein the deposition of the seed material is flash evaporation or electron-beam deposition.

12. The method recited in claim 10 including oxidizing the nucleation sites prior to the getter material deposition.

13. The method recited in claim 10 wherein the seed material is formed on a region of the surface having a predetermined surface area and wherein the nucleation sites have an average height over the predetermined surface of less than one molecule thick.

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