CLAIMS

1. A semi-conductor wafer comprising:

a. a first surface; and

b. a second surface;

c. a first region with a first average thickness in a direction orthogonal to the first surface;

d. a second region with a second average thickness that is thicker than the first average thickness and that is in a selectable location; and

e. a third region with a third average thickness that is thicker than the first average thickness and that is thinner than the second average thickness.

2. The wafer of claim 1, the ratio of second average thickness to the first average thickness being between 1.28 to 1 and 5 to 1.

3. The wafer of claim 1, the wafer comprising an interstitial oxygen content of less than $6x10^{17}$ atoms/cc and a total oxygen content of less than $8.75x10^{17}$ atoms/cc.

4. The wafer of claim 1, the first average thickness being less than 160 microns and the second average thickness being at least 180 microns.

5. The wafer of claim 1, the second region being selected from the group consisting of at least one of: a perimeter; a border, an internal stripe; a landing; and an island.

6. The wafer of claim 1, the second region having a thickness of less than 250 microns, preferably between 180 and 250 microns and more preferably between 180 and 200 microns.

7. A method for fabricating a semi-conductor wafer, the method comprising the steps of:

a. providing a molten semi-conductor material, having a surface;

b. providing a template, comprising a porous body comprising:

i. a melt-ward surface;
ii. a back surface;
iii. a first template region having a first heat extraction propensity;
iv. a second template region having a second heat extraction propensity, which is greater than the first heat extraction propensity;

c. providing a differential pressure regime such that pressure at at least a portion of the melt-ward surface is less than pressure at the molten semi-conductor material surface; and

d. contacting the template melt-ward surface to the surface of the molten semi-conductor material for at least a portion of a contact duration, during which the melt-ward surface and the molten semi-conductor material are in contact with each other, and the differential pressure regime is provided, such that a body of semi-conductor material, solidifies upon the melt-ward surface, which formed body comprises:

i. a first, thinner body region, which has a first thinner body average thickness, the first thinner body region having formed adjacent the first template region; and

ii. a second, thicker body region, which has a second thicker body average thickness, the second body region having formed adjacent the second template region, the second body average thickness being greater than the first body thickness.

8. The method of claim 7, the first template region comprising an interior region, whereby the first, thinner body region is an interior region.

9. The method of claim 7, the second template region comprising a perimeter region, and the second, thicker body region comprising a perimeter region.

10. The method of claim 7, the second template region comprising a perimeter region, and the second, thicker body region comprising a perimeter, the second thicker template region further comprising at least one selected from the group consisting of:

a. a stripe region that extends across the interior region, whereby the second, thicker body region comprises a stripe that extends across the body interior;
b. a landing region, whereby the second, thicker body region comprises a landing; and
c. an island region, whereby the second, thicker body region comprises an island.

11. The method of claim 7, the template porous body comprising template material having a first lesser average thickness at the first template region and template material having a second, greater average thickness at the second template region, whereby the greater heat extraction propensity of the second template region as compared to the first template region is due at least in part to the greater average thickness of the template material of the second template region as compared to the average thickness of the template material of the first template region.

12. The method of claim 7, the template porous body having a functional material having a first thermal conductivity at the first template region and a functional material having a second, greater thermal conductivity at the second template region, whereby the greater heat extraction propensity of the second template region as compared to the first template region is due at least in part to the

greater functional material thermal conductivity of the second template region as compared to the lesser functional material thermal conductivity of the first template region.

13. The method of claim 12, the functional materials comprising the same compositions as each other, the functional material of the first region having a first thickness and the functional material of the second region having a second thickness, which is lesser than the first thickness.

14. The method of claim 7, the template porous body comprising template material having a first gas permeability at the first template region and template material having a second, greater gas permeability at the second template region, whereby the greater heat extraction propensity of the template second region as compared to the first template region is due at least in part to the greater permeability of the template material of the second template region as compared to permeability of the template material of the first template region.

15. The method of claim 7, further comprising the step of coupling the first template region to a first source of differential pressure, and the step of coupling the second template region to a second source of differential pressure, the second source of differential pressure providing greater differential pressure than the first source of differential pressure, whereby the greater heat extraction propensity of the second template region as compared to the first template region is due at least in part to the greater differential pressure provided at the second template region as compared to the differential pressure provided at the first template region.

16. A template, comprising a porous body comprising:

a. a melt-ward surface;

b. a back surface;

c. a first region having a first heat extraction propensity; and

d. a second region having a second heat extraction propensity, which is greater than the first heat extraction propensity.

17. The template of claim 16, the porous body comprising material having a first, lesser average thickness at the first region and material having a second, greater average thickness at the second region, whereby the greater heat extraction propensity of the second region as compared to the lesser heat extraction propensity of the first region is due at least in part, to the greater thickness of the material of the second region as compared to the lesser thickness of the material of the first region.

18. The template of claim 16, the porous body comprising on its melt-ward surface, functional material having a first, greater thickness at the first region and functional material having a second, lesser thickness at the second region, whereby the greater heat extraction propensity of the second region as compared to the lesser heat extraction propensity of the first region is due at least in part to the

lesser thickness of the functional material of the second region as compared to the greater thickness of the functional material of the first region.

19. The template of claim 16, the porous body comprising on its melt-ward surface, functional material having a first, lesser thermal conductivity at the first region and functional material having a second, greater thermal conductivity at the second region, whereby the greater heat extraction propensity of the second region as compared to the lesser heat extraction propensity of the first region is due at least in part to the greater thermal conductivity of the functional material of the second region as compared to the lesser thermal conductivity of the functional material of the first region.

20. The template of claim 16, the first region comprising an interior region.

21. The template of claim 20, the second region comprising a perimeter region, and at least one selected from the group consisting of:

a. a stripe region that extends across the interior region;

b. a landing region; and

c. an island region.