CLAIMS:

1. A single crystal silicon wafer comprising:

two major, parallel surfaces, one of which is a front surface of the single crystal silicon wafer and the other of which is a back surface of the single crystal silicon wafer, a circumferential edge joining the front and back surfaces of the single crystal silicon wafer, a bulk region between the front and back surfaces, and a central plane of the single crystal silicon wafer between the front and back surfaces of the single crystal silicon wafer, wherein the bulk region comprises an impurity comprising nitrogen at a concentration of at least about $1x10^{14}$ atoms/cm^3, germanium at a concentration of at least about $1x10^{19}$ atoms/cm^3, or a combination of nitrogen at a concentration of at least about $1x10^{14}$ atoms/cm^3 and germanium at a concentration of at least about $1x10^{19}$ atoms/cm^3, and interstitial oxygen at a concentration of less than about 6 ppma (New ASTM: ASTM F 121, 1980-1983; DIN 50438/1, 1978), and further wherein the bulky region of the single crystal silicon wafer has a resistivity of at least about 3000 ohm cm.

2. The single crystal silicon wafer of claim 1 wherein the concentration of interstitial oxygen is less than about 5 ppma.

3. The single crystal silicon wafer of claim 1 wherein the concentration of interstitial oxygen is less than about 4 ppma.

4. The single crystal silicon wafer of claim 1 wherein the concentration of interstitial oxygen is less than about 3 ppma.

5. The single crystal silicon wafer of claim 1 wherein the resistivity is at least about 5000 ohm cm.

6. The single crystal silicon wafer of claim 1 wherein the resistivity is at least about 10000 ohm cm.

7. The single crystal silicon wafer of claim 1 wherein the resistivity is at least about 15000 ohm cm.

8. The single crystal silicon wafer of claim 1 wherein the resistivity is at least about 20000 ohm cm.

9. The single crystal silicon wafer of any of claims 1 through 8 wherein the germanium concentration is at least about $1x10^{19}$ atoms/cm^3 and less than about $1x10^{22}$ atoms/cm^3.

10. The single crystal silicon wafer of any of claims 1 through 8 wherein the germanium concentration is at least about $5x10^{19}$ atoms/cm^3.

11. The single crystal silicon wafer of any of claims 1 through 8 wherein the germanium concentration is at least about $5x10^{19}$ atoms/cm^3 and less than about $1x10^{22}$ atoms/cm^3.

12. The single crystal silicon wafer of any of claims 1 through 11 comprising nitrogen at a concentration of at least about $1x10^{14}$ atoms/cm^3.

13. The single crystal silicon wafer of any of claims 1 through 11 comprising nitrogen at a concentration of at least about $5x10^{14}$ atoms/cm^3 and less than about $1x10^{16}$ atoms/cm^3.

14. The single crystal silicon wafer of any of claims 1 through 11 comprising nitrogen at a concentration of at least about $1x10^{15}$ atoms/cm^3 and less than about $1x10^{16}$ atoms/cm^3.

15. A single crystal silicon ingot comprising:

a central axis, a crown, an end opposite the crown, and a main body between the crown and the opposite end, the main body having a lateral surface and a radius, R, extending from the central axis to the lateral surface, wherein the main body of the single crystal silicon ingot comprises an impurity comprising nitrogen at a concentration of at least about $1x10^{14}$ atoms/cm^3, germanium at a concentration of at least about $1x10^{19}$ atoms/cm^3, or a combination of nitrogen at a concentration of at least about $1x10^{14}$ atoms/cm^3 and germanium at a concentration of at least about $1x10^{19}$ atoms/cm^3, and interstitial oxygen at a concentration of less than about 6 ppma (New ASTM: ASTM F

121, 1980-1983; DIN 50438/1, 1978), and further wherein the main body of the single crystal silicon ingot has a resistivity of at least about 3000 ohm cm.

16. The single crystal silicon ingot of claim 15 wherein the concentration of interstitial oxygen is less than about 5 ppma.

17. The single crystal silicon ingot of claim 15 wherein the concentration of interstitial oxygen is less than about 4 ppma.

18. The single crystal silicon ingot of claim 15 wherein the concentration of interstitial oxygen is less than about 3 ppma.

19. The single crystal silicon ingot of claim 15 wherein the resistivity is at least about 5000 ohm cm.

20. The single crystal silicon ingot of claim 15 wherein the resistivity is at least about 10000 ohm cm.

21. The single crystal silicon ingot of claim 15 wherein the resistivity is at least about 15000 ohm cm.

22. The single crystal silicon ingot of claim 15 wherein the resistivity is at least about 20000 ohm cm.

23. The single crystal silicon ingot of any of claims 15 through 22 wherein the germanium concentration is at least about $1x10^{19}$ atoms/cm^3 and less than about $1x10^{22}$ atoms/cm^3.

24. The single crystal silicon ingot of any of claims 15 through 22 wherein the germanium concentration is at least about $3x10^{19}$ atoms/cm^3.

25. The single crystal silicon ingot of any of claims 15 through 22 wherein the germanium concentration is at least about $5x10^{19}$ atoms/cm^3 and less than about $1x10^{22}$ atoms/cm^3.

26. The single crystal silicon ingot of any of claims 15 through 25 comprising nitrogen at a concentration of at least about $1x10^{14}$ atoms/cm^3.

27. The single crystal silicon ingot of any of claims 15 through 25 comprising nitrogen at a concentration of at least about $2x10^{14}$ atoms/cm^3 and less than about $2x10^{15}$ atoms/cm^3.

28. The single crystal silicon ingot of any of claims 15 through 25 comprising nitrogen at a concentration of at least about $1x10^{15}$ atoms/cm^3 and less than about $1x10^{16}$ atoms/cm^3.

29. A method of growing a single crystal silicon ingot of claim 15, the method comprising:

preparing a silicon melt, wherein the silicon melt is prepared by melting polycrystalline silicon having a resistivity greater than 1000 ohm cm in a crucible comprising a quartz lined wall and further adding a source of an impurity to the crucible comprising the quartz lined wall, the crucible held within a growth chamber, and further wherein the impurity comprises a source of germanium, a source of nitrogen, or a combination of a source of germanium and a source of nitrogen; and

pulling the single crystal silicon ingot from the silicon melt, the single crystal silicon ingot comprising a central axis, a crown, an end opposite the crown, and a main body between the crown and the opposite end, the main body having a lateral surface and a radius, R, extending from the central axis to the lateral surface, wherein the main body of the single crystal silicon ingot comprises nitrogen at a concentration of at least about $1x10^{14}$ atoms/cm^3, germanium at a concentration of at least about $1x10^{19}$ atoms/cm^3, or a combination of nitrogen at a concentration of at least about $1x10^{14}$ atoms/cm^3 and germanium at a concentration of at least about $1x10^{19}$ atoms/cm^3, further wherein the pulling conditions selected from the group consisting of convection, crucible rotation rate, applied magnetic field strength, cusp position of an applied magnetic field, temperature of a wall-melt interface, seed lift rate, inert gas flow, inert gas pressure, and any combination thereof are sufficient to yield a concentration of interstitial oxygen in the main body of the single crystal silicon ingot of less than about 6 ppma (New ASTM: ASTM F 121, 1980-1983; DIN 50438/1, 1978), and further wherein the main body of the single crystal silicon ingot has a resistivity of at least about 3000 ohm cm.