What is claimed is:

1. A method of processing a resistive memory cell, comprising:

conformally forming a cell material in an opening in an interlayer dielectric such that a seam is formed in the cell material;

forming a conductive pathway by modifying the seam; and

forming an electrode on the cell material and the seam.

2. The method of claim 1, wherein modifying the seam includes forming a filament in the seam.

3. The method of claim 2, wherein the method includes heating the filament after the filament is formed in the seam.

4. The method of claim 2, wherein the filament is a filament source material.

5. The method of any one of claims 1-4, wherein the method includes:

conformally forming the cell material in the opening such that cell material is formed between a bottom of the seam and an additional electrode adjacent the opening; and

forming the conductive pathway does not include forming an additional material that couples the bottom of the seam to the bottom electrode.

6. A method of processing a resistive random access memory (RRAM) cell, comprising:

forming a seam in a cell material by conformally depositing the cell material in an opening in an interlayer dielectric;

forming a conductive pathway in the cell material by modifying the seam; and

forming an electrode on the cell material and the seam.

7. The method of claim 6, wherein modifying the seam includes forming a filament in the seam.

8. The method of any one of claims 6-7, wherein the method includes conformally depositing the cell material in the opening such that cell material is formed between a bottom of the seam and an additional electrode adjacent the opening.

9. The method of claim 8, wherein only cell material is formed between the bottom of the seam and the additional electrode.

10. The method of any one of claims 6-7, wherein the method includes removing a portion of the cell material before forming the electrode on the cell material and the seam.

11. A method of processing a resistive memory cell, comprising:

conformally forming a resistive memory cell material in an opening in an interlayer dielectric such that a seam is formed in the resistive memory cell material;

forming a filament in the seam; and

forming an electrode on the resistive memory cell material and filament.

12. The method of claim 11, wherein the method includes forming the filament with a different material than the resistive memory cell material.

13. The method of claim 11, wherein the method includes diffusing atoms from the filament into the resistive memory cell material after the filament is formed in the seam and before the electrode is formed on the resistive memory cell material and filament.

14. The method of claim 13, wherein the method includes diffusing atoms from the filament by heating the filament.

15. The method of any one of claims 11-14, wherein the method includes conformally forming the resistive memory cell material in the opening such that the seam is not in contact with an additional electrode adjacent the opening.

16. The method of any one of claims 11-14, wherein the method includes forming the filament in the seam such that the filament completely fills the seam.

17. A resistive memory cell, comprising:

an interlayer dielectric having an opening;

a cell material conformally formed in the opening;

a conductive pathway in the cell material; and

an electrode on the cell material and the conductive pathway.

18. The resistive memory cell of claim 17, wherein the conductive pathway includes a filament.

19. The resistive memory cell of claim 18, wherein the filament is a metal or a metal oxide.

20. The resistive memory cell of any one of claims 17-19, wherein the cell material is a metal oxide.

21. The resistive memory cell of any one of claims 17-19, wherein the conductive pathway has a diameter of 0.5 nanometers to 5.0 nanometers.

22. The resistive memory cell of any one of claims 17-19, wherein the opening has a diameter of 10 to 30 nanometers.

23. A resistive random access memory (RRAM) cell, comprising:

an interlayer dielectric having an opening;

a resistive memory cell material conformally formed in the opening such that the cell material includes a seam;

a filament in the seam; and

an electrode on the resistive memory cell material and filament.

24. The RRAM cell of claim 23, wherein the filament is a different material than the resistive memory cell material.

25. The RRAM cell of claim 23, wherein the resistive memory cell material is Ge_xSe_y.

26. The RRAM cell of claim 23, wherein:

the RRAM cell includes an additional electrode adjacent the opening in the interlayer dielectric; and

an end of the filament in the seam is a distance of 3 Angstroms to 15 Angstroms from the additional electrode.

27. The RRAM cell of claim 26, wherein the RRAM cell includes only resistive memory cell material between the additional electrode and the end of the filament.

28. The RRAM cell of claim 23, wherein the filament has a diameter of approximately 1 nanometer.

29. The RRAM cell of any one of claims 23-28, wherein the filament is a filament source material.

What is claimed is:

1. A method of processing a resistive memory cell, comprising:

conformally forming a cell material in an opening in an interlayer dielectric such that a seam is formed in the cell material;

forming a conductive pathway by modifying the seam; and

forming an electrode on the cell material and the seam.

2. The method of claim 1, wherein modifying the seam includes forming a filament in the seam.

3. The method of claim 2, wherein the method includes heating the filament after the filament is formed in the seam.

4. The method of claim 2, wherein the filament is a filament source material.

5. The method of claim 1, wherein the method includes:

conformally forming the cell material in the opening such that cell material is formed between a bottom of the seam and an additional electrode adjacent the opening; and

forming the conductive pathway does not include forming an additional material that couples the bottom of the seam to the bottom electrode.

6. A method of processing a resistive random access memory (RRAM) cell, comprising:

forming a seam in a cell material by conformally depositing the cell material in an opening in an interlayer dielectric;

forming a conductive pathway in the cell material by modifying the seam; and

forming an electrode on the cell material and the seam.

7. The method of claim 6, wherein modifying the seam includes forming a filament in the seam.

8. The method of claim 6, wherein the method includes conformally depositing the cell material in the opening such that cell material is formed between a bottom of the seam and an additional electrode adjacent the opening.

9. The method of claim 8, wherein only cell material is formed between the bottom of the seam and the additional electrode.

10. The method of claim 6, wherein the method includes removing a portion of the cell material before forming the electrode on the cell material and the seam.

11. A method of processing a resistive memory cell, comprising:

conformally forming a resistive memory cell material in an opening in an interlayer dielectric such that a seam is formed in the resistive memory cell material;

forming a filament in the seam; and

forming an electrode on the resistive memory cell material and filament.

12. The method of claim 11, wherein the method includes forming the filament with a different material than the resistive memory cell material.

13. The method of claim 11, wherein the method includes diffusing atoms from the filament into the resistive memory cell material after the filament is formed in the

seam and before the electrode is formed on the resistive memory cell material and filament.

14. The method of claim 13, wherein the method includes diffusing atoms from the filament by heating the filament.

15. The method of claim 11, wherein the method includes conformally forming the resistive memory cell material in the opening such that the seam is not in contact with an additional electrode adjacent the opening.

16. The method of claim 11, wherein the method includes forming the filament in the seam such that the filament completely fills the seam.

17. A resistive memory cell, comprising:

an interlayer dielectric having an opening;

a cell material conformally formed in the opening such that the cell material includes a seam;

a conductive pathway in the seam of the cell material; and

an electrode on the cell material and the conductive pathway.

18. The resistive memory cell of claim 17, wherein the conductive pathway includes a filament.

19. The resistive memory cell of claim 18, wherein the filament is a metal or a metal oxide.

20. The resistive memory cell of claim 17, wherein the cell material is a metal oxide.

21. The resistive memory cell of claim 17, wherein the conductive pathway has a diameter of 0.5 nanometers to 5.0 nanometers.

22. The resistive memory cell of claim 17, wherein the opening has a diameter of 10 to 30 nanometers.

23. A resistive random access memory (RRAM) cell, comprising:

an interlayer dielectric having an opening;

a resistive memory cell material conformally formed in the opening such that the cell material includes a seam;

a filament in the seam; and

an electrode on the resistive memory cell material and filament.

24. The RRAM cell of claim 23, wherein the filament is a different material than the resistive memory cell material.

25. The RRAM cell of claim 23, wherein the resistive memory cell material is Ge_xSe_y.

26. The RRAM cell of claim 23, wherein:

the RRAM cell includes an additional electrode adjacent the opening in the interlayer dielectric; and

an end of the filament in the seam is a distance of 3 Angstroms to 15 Angstroms from the additional electrode.

27. The RRAM cell of claim 26, wherein the RRAM cell includes only resistive memory cell material between the additional electrode and the end of the filament.

28. The RRAM cell of claim 23, wherein the filament has a diameter of approximately 1 nanometer.

29. The RRAM cell of claim 23, wherein the filament is a filament source material.