WHAT IS CLAIMED IS:

1. An electronic device comprising a semiconductor memory, the semiconductor memory comprising:

a first variable resistance element coupled between a first wiring and a second wiring, the first variable resistance element including a first variable resistance layer having a first width at a first distance from the first wiring; and

a second variable resistance element coupled between the second wiring and a third wiring, the second variable resistance element including a second variable resistance layer having a second width at the first distance from the second wiring,

wherein the first width is greater than the second width,

wherein the second variable resistance layer has a third width at a second distance from the second wiring, the second distance being different from the first distance, the third width being greater than the second width, and

wherein a first composition of the second variable resistance layer at the second width is different from a second composition of the second variable resistance layer at the third width.

2. The electronic device of claim 1, wherein the first and second variable resistance layers each include a phase change material, and crystal growth directions of the first and second variable resistance layers during a set operation coincide with directions of currents flowing through the first and second variable resistance layers, respectively.

3. The electronic device of claim 2, wherein a current of the set operation of the second variable resistance element flows from the second wiring towards the third wiring.

4. The electronic device of claim 3,

wherein when the second wiring is a source of the current of the set operation of the second variable resistance element, the second wiring is a source of a current of the set operation of the first variable resistance element, and

wherein when the second wiring is a sink of the current of the set operation of the second variable resistance element, and the second wiring is a sink of the current of the set operation of the first variable resistance element.

5. The electronic device of claim 1, wherein the second variable resistance element further comprises a selection layer, a heating material, or both coupled to an end of the second variable resistance element closer to the third width than to the second width.

6. The electronic device of claim 1, wherein the first variable resistance layer has a fourth width at the first distance from the first wiring, the fourth width being orthogonal to the first width,

wherein the second variable resistance layer has a fifth width at the first distance from the second wiring, the fifth width being orthogonal to the second width, and wherein the fourth width is greater than the fifth width.

7. The electronic device of claim 1, wherein a width of the second variable resistance layer decreases from a first end of the second variable resistance layer to a second end of the second variable resistance layer.

8. The electronic device of claim 7, wherein a width of all side surfaces of the second variable resistance layer decreases from the first end to the second end.

9. The electronic device of claim 1, wherein the first variable resistance element is disposed at an intersection of the first wiring and the second wiring, and

wherein the second variable resistance element is disposed at an intersection of the second wiring and the third wiring.

10. An electronic device comprising a semiconductor memory, wherein the semiconductor memory comprises:

a first wiring, a second wiring and a third wiring that are arranged so as to be isolated from one another, wherein the second wiring is extended in a direction intersecting the first and third wirings;

a first variable resistance element interposed between the first and second wirings, overlapping an intersection between the first and second wirings, and comprising a first variable resistance layer; and

a second variable resistance element interposed between the second and third wirings, overlapping an intersection between the second and third wirings, and comprising a second variable resistance layer,

wherein during a set operation, the direction of a current flowing through the first variable resistance element coincides with a temperature increase direction in the first variable resistance element, the direction of a current flowing through the second variable resistance element is opposite to a temperature increase direction in the second variable resistance element, and a width of the second variable resistance layer at a second location is larger than a width of the second variable resistance layer at a first location when a current

flows from the second location to the first location in the second variable resistance layer, and

wherein a part of the second variable resistance layer at the first location and a part of the second variable resistance layer at the second location are formed of different materials.

11. The electronic device of claim 10, wherein a change in width of the second variable resistance layer is larger than a change in width of the first variable resistance layer.

12. The electronic device of claim 10, wherein the first and second variable resistance layers comprise a phase change material, and

crystal growth directions of the first and second variable resistance layers coincide with the directions of currents flowing through the first and second variable resistance elements, respectively.

13. The electronic device of claim 10, wherein when the direction of the current flowing through the first variable resistance element is a direction from the first wiring to the second wiring, the direction of the current flowing through the second variable resistance element is a direction from the third wiring to the second wiring,

wherein when the direction of the current flowing through the first variable resistance element is a direction from the second wiring to the first wiring, the direction of the current flowing through the second variable resistance element is a direction from the second wiring to the third wiring,

wherein during the set operation, the temperature increase direction of the first variable resistance element and the temperature increase direction of the second variable resistance element coincide with each other.

14. The electronic device of claim 10, wherein the first variable resistance element further comprises a first selection element layer, and the second variable resistance element further comprises a second selection element layer,

wherein during the set operation, the temperature increase direction of the first variable resistance element is a direction from the first variable resistance layer to the first selection element layer,

wherein during the set operation, the temperature increase direction of the second variable resistance element is a direction from the second variable resistance layer to the second selection element layer.

15. The electronic device of claim 10, wherein the width of the second variable resistance layer decreases in a gradual or stepwise manner from the second location to the first location.

16. The electronic device of claim 10, wherein a current flows from the second wiring to the first and third wirings,

wherein during the set operation, the temperature of the first variable resistance element increases in a direction from the second wiring to the first wiring,

wherein during the set operation, the temperature of the second variable resistance element increases in a direction from the third wiring to the second wiring,

wherein the first location is closer to the third wiring than the second location.

17. The electronic device of claim 10, wherein a current flows from the first and third wirings toward the second wiring,

wherein during the set operation, the temperature of the first variable resistance element increases in a direction from the first wiring to the second wiring,

wherein during the set operation, the temperature of the second variable resistance element increases in a direction from the second wiring to the third wiring,

wherein the first location is closer to the second wiring than the second location.

18. The electronic device of claim 10, wherein a current flows from the second wiring toward the first and third wirings,

wherein during the set operation, the temperature of the first variable resistance element increases in a direction from the second wiring to the first wiring,

wherein during the set operation, the temperature of the second variable resistance element increases in a direction from the third wiring to the second wiring,

wherein the first location is closer to the first wiring than the second location.

19. The electronic device of claim 10, wherein a current flows from the first and third wirings toward the second wiring,

wherein during the set operation, the temperature of the first variable resistance element increases in a direction from the first wiring to the second wiring,

wherein during the set operation, the temperature of the second variable resistance element increases in a direction from the second wiring to the third wiring,

wherein the first location is closer to the second wiring than the second location.

20. The electronic device of claim 10, wherein the semiconductor memory further comprises:

a fourth wiring disposed at one side of the third wiring in the arrangement direction of the first to third wirings so as to be isolated from the third wiring, and extended in a direction intersecting the third wiring; and

a third variable resistance element interposed between the third and fourth wirings, overlapping an intersection between the third and fourth wirings, and comprising a third variable resistance layer, wherein the third variable resistance layer has the same width as the first variable resistance layer.

21. The electronic device of claim 20, wherein the semiconductor memory further comprises:

a fifth wiring disposed at one side of the fourth wiring in the arrangement direction of the first to third wirings so as to be isolated from the fourth wiring, and extended in a direction intersecting the fourth wiring; and

a fourth variable resistance element interposed between the fourth and fifth wirings, overlapping an intersection between the fourth and fifth wirings, and comprising a fourth variable resistance layer, wherein the fourth variable resistance layer has the same width as the second variable resistance layer.

22. An electronic device comprising a semiconductor memory, wherein the semiconductor memory comprises:

a first wiring, a second wiring and a third wiring that are arranged so as to be isolated from one another, wherein the second wiring is extended in a direction intersecting the first and third wirings;

a first variable resistance element interposed between the first and second wirings, overlapping an intersection between the first and second wirings, and comprising a first variable resistance layer; and

a second variable resistance element interposed between the second and third wirings, overlapping an intersection between the second and third wirings, and comprising a second variable resistance layer,

wherein during a set operation, the direction of a current flowing through the first variable resistance element coincides with a temperature increase direction in the first variable resistance element, the direction of a current flowing through the second variable resistance element is opposite to a temperature increase direction in the second variable resistance element, and the second variable resistance layer includes a first portion having a first width and a second portion having a second width larger than the first width when a

current flows from the second portion to the first portion in the second variable resistance layer,

wherein the first portion and the second portion of the second variable resistance layer form a stepwise shape, and

wherein the first variable resistance element has the second width.