CLAIMS

1. A semiconductor device comprising:

a first transistor;

a second transistor;

a third transistor;

a capacitor;

a selection circuit; and

a flip-flop,

wherein one of a source and a drain of the first transistor is electrically connected to an output terminal of the flip-flop,

wherein the other of the source and the drain of the first transistor is electrically connected to one terminal of the capacitor and one of a source and a drain of the second transistor,

wherein the other of the source and the drain of the second transistor is electrically connected to a first input terminal of the selection circuit,

wherein an output terminal of the selection circuit is electrically connected to an input terminal of the flip-flop,

wherein one of a source and a drain of the third transistor is electrically connected to the first input terminal of the selection circuit,

wherein a scan test data is input to the other of the source and the drain of the third transistor,

wherein an output data from a logic circuit is input to a second input terminal of the selection circuit, and

wherein the first transistor and the second transistor each comprise an oxide semiconductor layer in a channel formation region.

2. The semiconductor device according to claim 1,

wherein the capacitor, the first transistor, the second transistor and the third transistor are stacked over a region where the flip-flop is formed.

3. A semiconductor device comprising:

a first transistor;

a second transistor;

a first capacitor;

a second capacitor; and

a flip-flop,

wherein one of a source and a drain of the first transistor is electrically connected to an output terminal of the flip-flop,

wherein the other of the source and the drain of the first transistor is electrically connected to one terminal of the first capacitor, one terminal of the second capacitor and one of a source and a drain of the second transistor,

wherein the other terminal of the second capacitor is electrically connected to a gate of the second transistor,

wherein the other of the source and the drain of the second transistor is electrically connected to a first input terminal of the flip-flop, and

wherein the first transistor and the second transistor each comprise an oxide semiconductor layer in a channel formation region.

4. The semiconductor device according to claim 3,

wherein the oxide semiconductor layer includes a c-axis aligned crystal.

5. The semiconductor device according to claim 3,

wherein the first capacitor and the first transistor and the second transistor are stacked over a region where the flip-flop is formed.

6. The semiconductor device according to claim 3, further comprising a third transistor,

wherein one of a source and a drain of the third transistor is electrically connected to the first input terminal of the flip-flop.

7. A semiconductor device comprising:

a first scan flip-flop comprising:

a first transistor;

a second transistor;

a third transistor;

a capacitor;

a selection circuit; and

a flip-flop;

a second scan flip-flop; and

a logic circuit,

wherein one of a source and a drain of the first transistor is electrically connected to an output terminal of the flip-flop,

wherein the other of the source and the drain of the first transistor is electrically connected to one terminal of the capacitor and one of a source and a drain of the second transistor,

wherein the other of the source and the drain of the second transistor is electrically connected to a first input terminal of the selection circuit,

wherein an output terminal of the selection circuit is electrically connected to an input terminal of the flip-flop,

wherein one of a source and a drain of the third transistor is electrically connected to the first input terminal of the selection circuit,

wherein the other of the source and the drain of the third transistor is electrically connected to an output terminal of the second scan flip-flop, and

wherein a second input terminal of the selection circuit is electrically connected to an output terminal of the logic circuit.

8. The semiconductor device according to claim 7,

wherein the first transistor, the second transistor and the third transistor each comprise an oxide semiconductor layer in a channel formation region.