WHAT IS CLAIMED IS:

1. A capacitor structure comprising:

a lower electrode;

an upper electrode; and

a capacitor dielectric film interposed between the lower electrode and the upper electrode,

wherein the lower electrode includes:

a lower electrode film including a first metal element;

a first doped oxide film disposed between the lower electrode film and the capacitor dielectric film, wherein the first doped oxide film includes a second metal element and an oxide of the first metal element, and wherein the second metal element includes a metal element selected from at least one of Group 5 to Group 11 and Group 15 metal elements; and

a first metal oxide film disposed between the lower electrode film and the first doped oxide film, wherein the first metal oxide film includes an oxide of the first metal element and is free of the second metal element,

wherein the upper electrode includes:

an upper electrode film including the first metal element;

a second doped oxide film disposed between the upper electrode film and the capacitor dielectric film, wherein the second doped oxide film includes the second metal element and an oxide of the first metal element; and

a second metal oxide film disposed between the capacitor dielectric film and the second doped oxide film, wherein the second metal oxide film includes an oxide of the first metal element, and is free of the second metal element, and

wherein the capacitor dielectric film includes a first zirconium oxide film, a second zirconium oxide film, a third zirconium oxide film, a first hafnium oxide film disposed between the first zirconium oxide film and the second zirconium oxide film, and a second hafnium oxide film disposed between the second zirconium oxide film and the third zirconium oxide film, and the second zirconium oxide film disposed between the first hafnium oxide film and the second hafnium oxide film.

2. The capacitor structure of claim 1,

wherein the capacitor dielectric film further includes an aluminum oxide film.

3. The capacitor structure of claim 1 or claim 2,

wherein a thickness of the capacitor dielectric film is selected from a range of 30 to 60 Å, and a thickness of the first hafnium oxide film is smaller than or equal to 20 Å.

4. The capacitor structure of any one of claims 1 to 3,

wherein the first doped oxide film further contains silicon (Si).

5. A capacitor structure comprising:

a lower electrode;

an upper electrode; and

a capacitor dielectric film interposed between the lower electrode and the upper electrode,

wherein the lower electrode includes:

a lower electrode film including a first metal element; and

a first doped oxide film disposed between the lower electrode film and the capacitor dielectric film, wherein the first doped oxide film includes a second metal element and an oxide of the first metal element, and wherein the second metal element includes a metal element selected from at least one of Group 5 to Group 11 and Group 15 metal elements,

wherein the upper electrode includes:

an upper electrode film including the first metal element; and

a second doped oxide film disposed between the upper electrode film and the capacitor dielectric film, wherein the second doped oxide film includes a third metal element and the oxide of the first metal element, and wherein the third metal element includes a metal element selected from at least one of Group 5 to Group 11 and Group 15 metal elements, and

wherein the capacitor dielectric film includes a first zirconium oxide film, a second zirconium oxide film, a third zirconium oxide film, a first hafnium oxide film disposed between the first zirconium oxide film and the second zirconium oxide film, and a second hafnium oxide film disposed between the second zirconium oxide film and the third zirconium oxide film, and the second zirconium oxide film disposed between the first hafnium oxide film and the second hafnium oxide film.

6. The capacitor structure of claim 5,

wherein the lower electrode further includes a first metal oxide film disposed between the lower electrode film and the first doped oxide film, and

wherein the first metal oxide film includes an oxide of the first metal element and is free of the second metal element.

7. The capacitor structure of claim 5,

wherein the upper electrode further includes a second metal oxide film disposed between the capacitor dielectric film and the second doped oxide film, and

wherein the second metal oxide film includes an oxide of the first metal element and is free of the third metal element.

8. A semiconductor memory device comprising:

a substrate including an active area;

a bit-line disposed on the substrate, and extending in a first direction, wherein the bit-line is connected to the active area;

a capacitor contact disposed on the substrate, wherein the capacitor contact is spaced from the bit-line and is connected to the active area;

a word-line disposed on the active area and between the bit-line and the capacitor contact, wherein the word-line extends in a second direction intersecting the first direction; and

a capacitor structure including a lower electrode, a capacitor dielectric film, and an upper electrode sequentially stacked on the substrate,

wherein the lower electrode is connected to the capacitor contact,

wherein the lower electrode includes:

a lower electrode film including a first metal element;

a first doped oxide film disposed between the lower electrode film and the capacitor dielectric film, wherein the first doped oxide film includes a second metal element and an oxide of the first metal element, wherein the second metal element includes a metal element selected from at least one of Group 5 to Group 11 and Group

15 metal elements; and

a first metal oxide film disposed between the lower electrode film and the first doped oxide film, wherein the first metal oxide film includes an oxide of the first metal element and is free of the second metal element,

wherein the upper electrode includes:

an upper electrode film including the first metal element;

a second doped oxide film disposed between the upper electrode film and the capacitor dielectric film, wherein the second doped oxide film includes a third metal element and an oxide of the first metal element, wherein the third metal element includes at least one of Group 5 to Group 11 and Group 15 metal elements; and

a second metal oxide film disposed between the capacitor dielectric film and the second doped oxide film, wherein the second metal oxide film includes an oxide of the first metal element and is free of the third metal element, and

wherein the capacitor dielectric film includes a first zirconium oxide film, a second zirconium oxide film, and a hafnium oxide film disposed between the first zirconium oxide film and the second zirconium oxide film.