CLAIMS

1. A method for producing a field-effect transistor including a first oxide layer and a second oxide layer, and a source/drain electrode and forming a front channel or a back channel in a region where the first oxide layer and the second oxide layer are adjacent to each other, the method comprising:

forming a second precursor layer, which is a precursor of the second oxide layer, so as to be in contact with a first precursor layer, which is a precursor of the first oxide layer, and converting the first precursor layer and the second precursor layer to the first oxide layer and the second oxide layer, respectively,

the forming includes at least one of treatments (I) and (II) below:

(I) a treatment of: coating a first-oxide-precursor-forming coating liquid that can form a precursor of a first oxide and contains a solvent; and then removing the solvent to form the first precursor layer which is the precursor of the first oxide layer; and

(II) a treatment of: coating a second-oxide-precursor-forming coating liquid that can form a precursor of a second oxide and contains a solvent; and then removing the solvent to form the second precursor layer which is the precursor of the second oxide layer,

wherein during the converting of the first precursor layer and the second precursor layer to the first oxide layer and the second oxide layer, at least a channel region of the first oxide layer is free of contact with air so as not to have a free surface, wherein the first oxide layer includes an oxide semiconductor layer and the second oxide layer includes an oxide

insulating layer including a gate insulating layer, and wherein the source/drain electrode contacts the top surface of the oxide semiconductor layer.

2. The method for producing a field-effect transistor according to claim 1, wherein the converting the first precursor layer and the second precursor layer to the first oxide layer and the second oxide layer is done at a same time, and is performed by heating in an oven at a temperature between 200°C and 600°C.

3. A method for producing a field-effect transistor including a first oxide layer and a second oxide layer and forming a front channel or a back channel in a region where the first oxide layer and the second oxide layer are adjacent to each other, the method comprising:

forming a second precursor layer, which is a precursor of the second oxide layer, so as to be in contact with a first precursor layer, which is a precursor of the first oxide layer, and converting the first precursor layer and the second precursor layer to the first oxide layer and the second oxide layer, respectively,

the forming includes at least one of treatments (I) and (II) below:

(I) a treatment of: coating a first-oxide-precursor-forming coating liquid that can form a precursor of a first oxide and contains a solvent; and then removing the solvent to form the first precursor layer which is the precursor of the first oxide layer; and

(II) a treatment of: coating a second-oxide-precursor-forming coating liquid that can form a precursor of a second oxide and contains a solvent; and then removing the solvent to form the second precursor layer which is

the precursor of the second oxide layer,

wherein during the converting of the first precursor layer and the second precursor layer to the first oxide layer and the second oxide layer, at least a channel region of the first oxide layer is free of contact with air so as not to have a free surface, and wherein the first oxide layer includes an oxide semiconductor layer and the second oxide layer includes an oxide insulating layer including a passivation layer.

4. The method for producing a field-effect transistor according to claim 3, wherein the converting the first precursor layer and the second precursor layer to the first oxide layer and the second oxide layer is done at the same time, and is performed by heating in an oven at a temperature between 200°C and 600°C.