ment mode. In this embodiment, a resultant layer formed on the blocking layer **402** corresponds to the layer to be peeled **11***b* which is described in the embodiment mode. When the mechanical strength of the layer to be peeled is insufficient, it is preferable that the substrate is peeled after a support member (not shown) for fixing the layer to be peeled is bonded thereto.

[**0125**] The layer to be peeled which is formed on the oxide layer can be simply separated from the substrate by peeling. The peeled layer can be bent in a certain direction. It is needless to say that the layer to be peeled can be bonded to a transcriptional body (not shown) having a curved surface.

[**0126**] Also in this embodiment, according to the present invention, the irradiation direction (scanning direction) of the laser light and the channel length directions of all semiconductor layers **204** to **206** and **405** provided to the layer to be peeled are set to be the same direction, and these directions and the bending direction are set to be orthogonal to each other. Thus, a display having a curved surface can be realized.

[**0127**] Also, this embodiment can be freely combined with the embodiment mode.

[**0128**] [Embodiment 2]

[**0129**] The example of the top gate TFT is descried in Embodiment 1. Here, an example of a bottom gate TFT will be described. Also, the structure except for the TFT is the same one as Embodiment 1 and the description is thereof omitted here.

[**0130**] Next, steps of crystallizing a non-single crystalline semiconductor film and producing a TFT from the formed crystalline semiconductor film will be descried with reference to **FIGS. 7A** to **7**D.

[**0131**] **FIG. 7B** is a longitudinal cross sectional view. A non-single crystalline semiconductor film **503** is formed on a gate insulating film **506** covering a gate electrode. A typical example of the non-single crystalline semiconductor film **503** is an amorphous silicon film. In addition, an amorphous silicon germanium film or the like can be applied. The thickness of 10 nm to 200 nm can be applied and may be further increased in accordance with a wavelength of a laser beam and an energy density thereof. In addition, it is desirable to employ such a measure that a blocking layer **502** is provided between the glass substrate **501** and the gate electrode so as not to diffuse an impurity such as alkali metal from the glass substrate into the semiconductor film. A silicon nitride film, a silicon oxynitride film, or the like is applied as the blocking layer **502**.

[**0132**] Also, a laminate **509** of a metallic layer or a metallic nitride layer and an oxide layer is formed between the blocking layer **502** and the substrate **501** for peeling. As the metallic layer or the nitride layer, there is preferably used a nitride comprising a single layer made of an element selected from Ti, Al, Ta, W, Mo, Cu, Cr, Nd, Fe, Ni, Co, Ru, Rh, Pd, Os, Ir, and Pt, or an alloy material or a compound material which contains the above element as a main ingredient, or a laminate of those is preferably used. For example, a single layer made of titanium nitride, tungsten nitride, tantalum nitride, or molybdenum nitride, or a laminate of those is preferably used. Here, a titanium nitride film having a film thickness of 100 nm which is formed by a sputtering method is used. Note that, when a contact property to the substrate is low, a buffer layer is preferably provided. A single tungsten layer and a tungsten nitride have a high contact property and are exemplified as preferable materials. In addition, as the oxide layer, a single layer made of a silicon oxide material or a metallic oxide material, or a laminate of those is preferably used. Here, a silicon oxide film having a film thickness of 200 nm which is formed by a sputtering method is used. Bonding force between the metallic nitride layer and the oxide layer has a strength resistant to heat treatment. Thus, film peeling (which is also called peeling) or the like is not caused. However, peeling can be simply performed in an inner portion of the oxide layer or a boundary thereof by a physical means.

[**0133**] Next, crystallization is conducted by irradiation of a laser beam **500**. Thus, a crystalline semiconductor film **504** can be formed. The laser beam is obtained from the laser processing apparatus described in Embodiment 1. As shown in **FIG. 7**A, the laser beam **500** is scanned to a position of a semiconductor region **505** where a TFT will be formed. A beam shape can be set to be an arbitrary shape such as a rectangular shape, a linear shape, or an elliptical shape. With respect to the laser beam condensed by an optical system, an energy intensity at a central region thereof is not necessarily equal to that at an edge region. Thus, it is desirable that the semiconductor region **505** is not overlapped with the edge region of the beam.

[**0134**] Scanning of the laser beam is not limited to scanning in only a single direction and round trip scanning may be conducted. In this case, a laser energy density is changed every time scanning is conducted. Thus, a stepwise crystal growth can be produced. The scanning can also serve as dehydrogenation processing which is often required in the case of crystallization of amorphous silicon. For example, first scanning is conducted at a low energy density to release hydrogen, and then second scanning is conducted at an increased energy density to complete the crystallization.

[**0135**] When continuous oscillation laser beam irradiation is conducted in such a laser beam irradiation method, the growth of crystal having a larger grain size is possible. Of course, in order to realize this, it is necessary to set parameters such as a scanning speed of a laser beam and an energy density thereof in detail as appropriate. When the scanning speed is set to 10 cm/sec to 80 cm/sec, the above crystal growth can be realized. It is said that a speed of crystal growth through melting-solidification using a pulse laser is 1 m/sec. If a laser beam is scanned at a speed lower than the crystal growth speed and slow cooling is conducted, continuous crystal growth in a solid-liquid interface is possible. Thus, an increase in a grain size of crystal can be realized.

[**0136**] Also, when laser beam irradiation is conducted, clean peeling from the substrate can be performed with smaller force. Thus, a layer to be peeled that has a large area can be peeled over the entire surface thereof.

[**0137**] In order to further promote peeling, a granular oxide (for example, ITO (alloy of indium oxide and tin oxide), an alloy of indium oxide and zinc oxide (In_2O_3—ZnO), a zinc oxide (ZnO) or the like) may be provided in an interface between the nitride layer, the metallic layer, or the metallic nitride layer and the oxide layer.

[**0138**] Then, as shown in **FIGS. 7C and 7D**, the formed crystalline semiconductor film is etched to form a semicon-