FORMATION METHOD OF SINGLE CRYSTAL SEMICONDUCTOR LAYER, FORMATION METHOD OF CRYSTALLINE SEMICONDUCTOR LAYER, FORMATION METHOD OF POLYCRYSTALLINE LAYER, AND METHOD FOR MANUFACTURING SEMICONDUCTOR DEVICE

A method for forming a single crystal semiconductor layer in which a first porous layer and a second porous layer are formed over a single crystal semiconductor ingot, a groove is formed in a part of the second porous layer and a single crystal semiconductor layer is formed over the second porous layer, the single crystal semiconductor ingot is attached onto a large insulating substrate, water jet is directed to the interface between the first porous layer and the second porous layer, and the single crystal semiconductor layer is attached to the large insulating substrate, or a method for forming a crystalline semiconductor layer in which a crystalline semiconductor ingot is irradiated with hydrogen ions to form a hydrogen ion irradiation region in the crystalline semiconductor ingot, the crystalline semiconductor ingot is rolled over the large insulating substrate while being heated, the crystalline semiconductor layer is separated from the hydrogen ion irradiation region, and the crystalline semiconductor layer is attached to the large insulating substrate.

Figure 1C