GROWTH METHOD OF A NITRIDE III-V COMPOUND SEMICONDUCTOR, MANUFACTURING METHOD OF A SEMICONDUCTOR DEVICE, AND SEMICONDUCTOR DEVICE

ABSTRACT OF THE DISCLOSURE

When making a growth mask on a substrate and using the growth mask to selectively grow nitride III-V compound semiconductors on the substrate, a multi-layered film including a nitride forming at least its top surface is used as the growth mask. The growth mask may be combination of an oxide film and a nitride film thereon, combination of a metal film and a nitride film thereon, combination of an oxide film, a film thereon made up of a nitride and an oxide, and a nitride film thereon, or combination of a first metal film, a second metal film thereon different from the first metal film and a nitride film thereon, for example. The oxide film may be a SiO_2, for example, the nitride film may be a TiN film or a SiN film, the film made up of a nitride and an oxide may be a SiNO film, and the metal film may be a Ti film or a Pt film, for example.

Figure 8