

Abstract

Title of Invention: CRYSTALLINE SEMICONDUCTOR MANUFACTURING METHOD AND CRYSTALLINE SEMICONDUCTOR MANUFACTURING APPARATUS

In order to provide a crystalline semiconductor manufacturing method and a crystalline semiconductor manufacturing apparatus capable of more uniformly crystallizing an amorphous semiconductor, the crystalline semiconductor manufacturing apparatus includes: a plurality of pulsed laser light sources 2 and 3 and an optical system 12 guiding the plurality of pulsed laser beams to the amorphous semiconductor. Each pulsed laser beam includes, in one pulse in a temporal intensity change, at least a first peak group appearing and a second peak group later appearing. A maximum peak intensity of the first peak group is a maximum height in the one pulse. Assuming that a maximum peak intensity ratio is defined as a ratio b/a between the maximum peak intensity a of the first peak group and the maximum peak intensity b of the second peak group, and the maximum peak intensity ratio serving as a reference is defined as a reference maximum peak intensity ratio, the maximum peak intensity ratio of the plurality of pulsed laser beams is set to have a difference of less than or equal to 4% with respect to the reference maximum peak intensity ratio.

Fig. 1