METHOD FOR MANUFACTURING CRYSTALLINE SEMICONDUCTOR AND LASER ANNEALING APPARATUS

ABSTRACT

Homogenous crystallization is attained in crystallization of a silicon thin film by irradiation with pulsed laser. Provided is manufacturing equipment comprising: a laser oscillator which outputs pulsed laser; an optical system which guides the pulsed laser to an amorphous semiconductor; and a moving device which relatively moves the amorphous semiconductor so that the pulsed laser is irradiated to the amorphous semiconductor with scanning, in which the laser oscillator outputs the pulsed laser so that the pulsed laser has a plurality of peak groups in one pulse in temporal intensity change, and a first peak group having a maximum height, of the peak groups, and a second peak group which appears subsequently satisfy a relationship of (second peak group)/(first peak group)$\leq$0.35 in terms of peak intensity value. This pulsed laser is irradiated to the amorphous semiconductor, whereby a crystalline semiconductor having homogenous characteristics is obtained.

Fig. 2