LASER IRRADIATION APPARATUS, LASER IRRADIATION METHOD, AND METHOD FOR MANUFACTURING A SEMICONDUCTOR DEVICE

ABSTRACT OF THE DISCLOSURE

It is an object to provide a laser irradiation apparatus for enlarging an area of a beam spot and reducing a proportion of a region with low crystallinity. It is also an object to provide a laser irradiation apparatus for enhancing throughput with a CW laser beam. Furthermore, it is an object to provide a laser irradiation method and a method for manufacturing a semiconductor device with the laser irradiation apparatus. A region melted by a first pulsed laser beam having harmonic is irradiated with a second CW laser beam. Specifically, the first laser beam has a wavelength of visible light or a shorter wavelength than that of visible light (approximately not more than 830 nm, preferably, not more than 780 nm). Since the first laser beam melts a semiconductor film, an absorption coefficient of the second laser beam to the semiconductor film increases drastically and thereby being more absorbable.

(Fig. 2)