

**PELLICLE FILM, PELLICLE FRAME, PELLICLE, METHOD FOR PRODUCING
SAME, ORIGINAL PLATE FOR LIGHT EXPOSURE, LIGHT EXPOSURE
APPARATUS AND METHOD FOR MANUFACTURING SEMICONDUCTOR
DEVICE**

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ABSTRACT

Provided are a pellicle film, a pellicle frame and a pellicle having a higher EUV transmittance. An exposure pattern plate capable of performing EUV lithography with the pellicle film, the pellicle frame or the pellicle, and a method for
10 producing a semiconductor device, are provided. A pellicle film for exposure extendable over an opening of a support frame and having a thickness of 200 nm or less is provided. The film includes a carbon nanotube sheet. The carbon nanotube sheet includes bundles each including a plurality of carbon nanotubes, the bundles each have a diameter of 100 nm or shorter, and the bundles are
15 aligned in a planar direction in the carbon nanotube sheet.

Fig. 2