

MASK BLANKS AND PHOTOMASK

ABSTRACT

A mask blanks of the invention includes a blank mask layer. The blank mask
5 layer includes a molybdenum compound layer that contains molybdenum, silicon, and
nitrogen and that selectively contains oxygen. In the molybdenum compound layer, a
ratio of a peak area of a Mo-Si bonding peak obtained by separation of peaks of a
photoelectron spectrum of $\text{Mo}_{3d3/2}$ and a photoelectron spectrum of $\text{Mo}_{3d5/2}$ to peak areas
of the photoelectron spectrums of $\text{Mo}_{3d3/2}$ and $\text{Mo}_{3d5/2}$ measured by X-ray photoelectron
10 spectroscopy is greater than or equal to 73.0%.
(fig. 1)