

Reflective Photomask, Reflective Photomask Blank, and Method for Manufacturing
Reflective Photomask

ABSTRACT

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A reflective photomask including a substrate, a multilayer reflection film, a protection film and a pattern of a light absorbing film is provided. The protection film is constituted of multiple layers including one A layer, one or more B layers, and one or more C layers, the A layer contains rhodium, and has a thickness of 0.5 to 2 nm, the B layer
10 contains niobium, is free of rhodium, has a niobium content of not less than 10 at%, and has a thickness of 0.5 nm to 2 nm, the C layer contains molybdenum (Mo), is free of rhodium and niobium, has a molybdenum content of not less than 30 at%, and has a thickness of 0.5 nm to 2 nm, the A layer is in contact with the pattern of the light absorbing film, and one layer of the C layer(s) is in contact with the multilayer reflection film.

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[Figure 2]