

ABSTRACT

There is provided a reflective photomask blank capable of suppressing or reducing the shadowing effect of a reflective photomask for patterning transfer using a light having a wavelength in the extreme ultraviolet region as a light source and sufficiently having heat resistance in exposure. The reflective photomask blank is configured to have a substrate 1, a reflective layer 2 including a multi-layer film formed on the substrate 1, and an absorption layer 4 formed on the reflective layer 2. The absorption layer 4 contains a total of 50 at% or more of indium (In) and nitrogen (N). The atomic number ratio (N/In) of nitrogen (N) to indium (In) in the absorption layer 4 is set to 0.5 or more and 1.5 or less. The layer thickness of the absorption layer 4 is set to 17 nm or more and 45 nm or less.

Figure 2