

## ABSTRACT

There are provided a reflective photomask blank and a reflective photomask 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 having hydrogen radical resistance. A reflective photomask blank (10) according to this embodiment includes: a substrate (1); a reflective part (5); and a low reflective part (4) in this order, in which the low reflective part (4) includes a multi-layer reflective film (2) and a capping layer (3), the low reflective part (4) contains a high extinction coefficient material, Ta, and at least one of a material group consisting of Ti, Nb, W, and Mo and contains the high extinction coefficient material in a proportion larger than 50 at%, the content ratio of the at least one of the material group consisting of Ti, Nb, W, and Mo in the low reflective part (4) is equal to or less than the content ratio of Ta, the total film thickness of the low reflective part (4) is 45 nm or less, and the OD value of the low reflective part (4) is 1.0 or more.

Fig. 1