

Photomask Blank, and Preparation Method Thereof

ABSTRACT

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A photomask blank including a transparent substrate, and at least one film (A) containing chromium and nitrogen and free of silicon and at least one film (B) containing silicon and oxygen, and free of a transition metal that are contacted to each other. In the blank, when an intensity of secondary ions is measured along a thickness direction of the films by a time-of-flight secondary ion mass spectrometry (TOF-SIMS), an intensity of secondary ions derived from Cr_2O_5 is lower than an intensity of secondary ions derived from SiN , at a position located at the interface or its vicinity of the film (A) and film (B) and having a maximum intensity of secondary ions derived from SiCrO_5 .

15 [FIG. 2]