ABSTRACT

Disclosed is a blankmask for EUV lithography, including a reflective film, a capping film, an etch stop film, a phase shift film, and a hard mask film which are sequentially formed on a substrate. The phase shift film contains ruthenium (Ru), and the etch stop film contains chrome (Cr) and niobium (Nb). In the etch stop film, the content of niobium (Nb) ranges from 20 to 50 at%, and the content of chrome (Cr) ranges from 10 to 40 at%. The hard mask film contains tantalum (Ta) and oxygen (O). The content of tantalum (Ta) in the hard mask film is higher than or equal to 50 at%. With the blankmask, it is possible to implement a high resolution and NILS during wafer printing, and implement DtC.

FIG. 2