ABSTRACT

A light-shielding film 2 is formed on a transparent substrate 1. A hard mask film 3 is formed on this light-shielding film 2. The entire hard mask film 3 is made of a chromium-containing material including tin. The film made a chromium-containing material including tin can cause a significant increase in the etching rate at the time of chlorine-containing dry etching. Furthermore, comparing with a film made of a chromium-containing material in which part of chromium is replaced with a light element, the above film has an equal or higher level of etching resistance to fluorine-dry etching. Thus, burden on a photoresist at the time of etching the chromium-containing material film can be reduced. Therefore, high-precision pattern transfer can be performed even in the case that the resist film is thinned.

Fig. 1

PHOTOMASK BLANK AND METHOD FOR MANUFACTURING PHOTOMASK

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