

ABSTRACT

PHOTOMASK BLANK, METHOD FOR MANUFACTURING PHOTOMASK, AND MASK PATTERN FORMATION METHOD

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10 A photomask blank (1) having: a transparent substrate (10); a first film (11) etched
by chlorine/oxygen-based dry etching and made of a material having resistance against
fluorine-based dry etching; and a second film (12) formed adjacent to the first film and
made of a material which comprises silicon and oxygen or silicon, oxygen, and nitrogen
and has an Si-Si bond and which is substantially not etched by chlorine/oxygen-based dry
etching, wherein: the photoresist adhesive performance is improved; the resist pattern is
15 stably maintained without degrading, collapsing, or peeling even when a fine resist pattern
is formed from a photoresist film; and an excellent shape and dimensional accuracy is
obtained in regard to etching of a lower layer film in which the resist pattern is used.

[FIG. 1A]