

ABSTRACT

Provided are a pattern structure of a patterned sapphire substrate mask and an exposure method. The pattern structure is formed by joining a plurality of identical polygons. Each polygon has at least two fan-shaped non-optically transmissive areas (7) and one optically transmissive area (2). The joining is carried out by joining the fan-shaped non-optically transmissive areas (7) of the plurality of polygons to form a circular non-optically transmissive area (1). Areas at the edge of the mask which cannot be integrated into a complete polygon are set as non-optically transmissive areas (1). The pattern structure ensures that the circular non-optically transmissive area (1) proximate to the edge of the mask will not be affected by light interference. When exposure is to be performed on another identical mask, it is only required to join the mask to the edge of the first mask and perform exposure to obtain a pattern other than the edge area. The mask pattern structure and exposure method solve a problem in which a distance between a non-optically transmissive patterned area (1) and the boundary of a mask is excessively short, which causes unclear exposure.