

Title (en)

VACUUM ULTRAVIOLET TRANSMITTING SILICON OXYFLUORIDE LITHOGRAPHY GLASS

Title (de)

IM VAKUUM ULTRAVIOLETT DURCHLÄSSIGES SILIZIUM OXYFLUORID-LITHOGRAPHIEGLAS

Title (fr)

VERRE LITHOGRAPHIQUE D'OXYFLUORURE DE SILICIUM TRANSMETTANT LES ULTRAVIOLETS EXTREMES

Publication

EP 1368711 A4 20060719 (EN)

Application

EP 01995254 A 20011128

Priority

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Abstract (en)

[origin: WO02069054A1] High purity silicon oxyfluoride glass suitable for use as a photomask substrates for photolithography applications in the VUV wavelength region below 190 nm is disclosed with the silicon oxyfluoride glass having a preferred fluorine content < 0.5 weight percent. The inventive silicon oxyfluoride glass is transmissive at wavelengths around 157 nm, making it particularly useful as a photomask substrate at the 157 nm wavelength region. The inventive photomask substrate is a "dry," silicon oxyfluoride glass which exhibits very high transmittance in the vacuum ultraviolet (VUV) wavelength region while maintaining the excellent thermal and physical properties generally associated with high purity fused silica. In addition to containing fluorine and having little or no OH content, the inventive silicon oxyfluoride glass suitable for use as a photomask substrate at 157 nm is also characterized by having less than 1x10¹⁷ molecules/cm³ of molecular hydrogen and low chlorine levels.

IPC 1-7

G03F 9/00; **G21K 5/00**; **C03C 15/00**

IPC 8 full level

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CPC (source: EP KR)

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Citation (search report)

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- [X] EP 1043282 A1 20001011 - ASAHI GLASS CO LTD [JP]
- [E] WO 0221217 A1 20020314 - CORNING INC [US]
- [A] WO 0055689 A1 20000921 - CORNING INC [US], et al
- [X] PATENT ABSTRACTS OF JAPAN vol. 2000, no. 12 3 January 2001 (2001-01-03)
- See references of WO 02069054A1

Designated contracting state (EPC)

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