

ABSTRACT

5 Provided is a substrate with a multilayer reflective film capable of sufficiently
reducing a reflectance of the multilayer reflective film with respect to EUV exposure
light and preventing occurrence of a phenomenon in which a surface of a protective film
on the multilayer reflective film swells and a phenomenon in which the protective film
peels off.

10 A substrate with a multilayer reflective film 110 comprises a multilayer
reflective film 5 and a protective film 6 in this order on a main surface of a substrate 1.
The substrate 1 contains silicon, titanium, and oxygen as main components, and further
contains hydrogen. The multilayer reflective film 5 has a structure in which a low
refractive index layer and a high refractive index layer are alternately layered. The
multilayer reflective film 5 comprises hydrogen. Hydrogen in the multilayer reflective
film 5 has an atomic number density of 7.0×10^{-3} atoms/nm³ or less.

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