

ABSTRACT

ETCHING METHOD AND PLASMA PROCESSING APPARATUS

An etching method includes (a) providing a substrate onto a substrate support, and (b)
5 generating a plasma from a processing gas including a hydrogen fluoride gas and a bromine-
containing gas. The substrate includes a silicon-containing film and a mask on the silicon-
containing film. The mask includes a sidewall defining at least one opening to expose the
silicon-containing film. The generating the plasma includes forming a first protective film
containing bromine on the sidewall to a lower portion of the sidewall and forming a recess in
10 the silicon-containing film.

Fig. 3