

CLAIMS

1. A plasma etching method comprising:

an etching step of etching a silicon nitride film
5 formed on a substrate using plasma obtained by converting
an etching gas containing iodine heptafluoride into
plasma.

~~2. The plasma etching method according to claim 1,~~
10 wherein a silicon oxide film is formed together with the
silicon nitride film on the substrate and the silicon
oxide film is etched together with the silicon nitride
film,

wherein a ratio of the etching rate of the silicon
15 nitride film to the etching rate of the silicon oxide
film is 2 or more and 70 or less.

~~3. The plasma etching method according to claim 2,~~
wherein an etching rate of the silicon nitride film is
20 higher than an etching rate of the silicon oxide film.

~~4. The plasma etching method according to claim 3,~~
wherein a ratio of the etching rate of the silicon
nitride film to the etching rate of the silicon oxide
25 film is 2 or more and 70 or less.

52. The plasma etching method according to any one
of claims 1 to 4, wherein the etching gas is a mixed gas
containing iodine heptafluoride and an inert gas.

63. The plasma etching method according to any one
of claims 1 to or 5-2 comprising:

performing etching under a process pressure of 1 Pa or more and 10 Pa or less.

74. The plasma etching method according to any one
5 of claims 1 to ~~6~~3 comprising:

performing etching while applying a bias power of 0 W or more and 1500 W or less to a lower electrode supporting the substrate.