

BOE 약액을 사용하는 공정의 로봇 동작 개선 Improved Mechanical Motion in Oxide Wet Etch Process with BOE chemical

김응도[†], 손원진^{*}
eung do Kim, won jin SON^{*}

삼성전자공과대학교, *삼성전자
Samsung institute of technology University, *Samsung electronics clean technology group2

Abstract : After oxide wet etch with BOE(Buffered Oxide Etchant), triangle type defect maps were inspected and SEM image showed them unetch of oxide layer.

As decreasing design rule, oxide unetch has become a crucial issue and has affected the yield and quality.

Key Words : Oxide unetch , BOE chemical

1. 서 론

In our research, we varied the concentration of surfactant of BOE and mechanical motion that was pulling down speed. The surfactant in BOE was the main cause of unetched defect. The bubble/micelles composed of surfactant molecules disturbed process in the oxide layer.

2. 결과 및 토의

The various concentration of surfactant affects the thickness of oxide & the number of defects at constant arm speed. The number of defects increased with BOE containing high concentration of surfactant. The high concentration of surfactant can reduce the surface tension, but it leads to increase the possibility of forming a bubble when wafer is immersed in BOE. The slower arm speed gave a better results: low possibility of forming bubble.

감사의 글

I am writing to express my great appreciation to you for inviting me to the Korean institute of electrical and electric material engineers in MUJU.

참고 문헌

- [1] DAE JONG LEE "BOE chemical 에 의한 Oxide unetch 개선에 관한 연구" (주) Samsung electronics
- [2] SANG BIN KIM "Oxide un etch 로 인한 CELL GATE UNETCH 개선" (주) Samsung electronics

[†] 교신저자) 손원진, e-mail: eungdo.kim@samsung.com , Tel: 031-209-6722

주소: 경기도 용인시 기흥구 농서동 산 24번지 삼성전자