[0016] (5) The method of polishing a silicon wafer, according to (4) above,

wherein the undiluted alkaline solution and the pure water are newly added into the dilution tank while the third alkaline aqueous solution remains to take up 10 % or more of a volume of the dilution tank.

[0017] (6) The method of polishing a silicon wafer, according to any one of (1) to (5) above,

wherein in the first to third alkaline aqueous solutions, a mean primary particle diameter of the abrasive grains is in a range of 10 nm to 70 nm.

[0018] (7) The method of polishing a silicon wafer, according to any one of (1) to (6) above,

wherein in the first to third alkaline aqueous solutions, the abrasive grains include SiO_2 particles.

[0019] (8) The method of polishing a silicon wafer, according to any one of (1) to (7) above,

wherein the first alkaline aqueous solution contains one or more alkalis selected from potassium hydroxide, sodium hydroxide, tetramethylammonium hydroxide, and tetraethylammonium hydroxide, and

the second and third alkaline aqueous solutions contain ammonia.

[0020] (9) The method of polishing a silicon wafer, according to any one of (1) to (8) above,

wherein in the second and third alkaline aqueous solutions, the water-soluble polymer is one or more selected from hydroxyethyl cellulose, polyethylene glycol, and polypropylene glycol.

(Advantageous Effect)

[0021] The method of polishing a silicon wafer, according to this disclosure can suppress the formation of not only PIDs but also scratches with small depth.

BRIEF DESCRIPTION OF THE DRAWINGS

[0022] In the accompanying drawings:

FIG. 1 is a flowchart illustrating the steps for producing a silicon wafer, including a method of polishing a silicon wafer, according to one