

ABSTRACT

SILICON WAFER SURFACE DEFECT EVALUATION METHOD

There is provided a silicon wafer surface defect evaluation method capable of readily detecting a region where small crystal defects exist.

A silicon wafer surface defect evaluation method according to the present invention is characterized by comprising: a rapid heat treatment step of applying a heat treatment to a silicon wafer cut out from a silicon single-crystal ingot in an atmosphere which can nitride silicon at a temperature elevating speed of 10 to 150°C/second from a room temperature to temperatures between not lower than 1170°C and less than a silicon melting point, holding the silicon wafer at the processing temperature for 1 to 120 seconds and then cooling the silicon wafer to the room temperature at a temperature lowering speed of 10 to 100°C/second; and a step of using a surface photo voltage method to calculate a minority carrier diffusion length on the wafer surface, thereby detecting a region on the wafer surface in which small COP's which cannot be detected at least by a particle counter exist.

Figure 2.