

Abstract**Silicon Single Crystal Substrate and Method of Manufacturing the Same**

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To provide a silicon single crystal substrate having uniform resistance in the substrate, less BMDs in a surface layer of the substrate, and moderate BMDs in a center of thickness of the
10 substrate.

A silicon single crystal substrate is formed by slicing a silicon single crystal grown with a Czochralski method, the substrate having the following characteristics. The resistivity in a center of a first main surface of the silicon single
15 crystal substrate is not lower than $50 \Omega \cdot \text{cm}$ and a rate of change in resistivity in the first main surface is not higher than 3%. The average density of oxygen precipitates bulk micro defects in a region lying between the first main surface and a plane at a depth of $50 \mu\text{m}$ is lower than $1 \times 10^8 / \text{cm}^3$. The
20 average density of oxygen precipitates bulk micro defects in a region lying between a plane at a depth of $300 \mu\text{m}$ and a plane at a depth of $400 \mu\text{m}$ from the first main surface is not lower than $1 \times 10^8 / \text{cm}^3$ and not higher than $1 \times 10^9 / \text{cm}^3$.

25 Fig. 1