[0054]

[Table 1]

| | | Example 1 | Example 2 | Example 3 | Compara-tive Example 1 | Compara-tive Example 2 | Compara-tive Example 3 |
|---|---|---|---|---|---|---|---|
| Nitrogen concentration (atoms/cm$^3$) | | No nitro-gen | 8.9 $\times 10^{13}$ | 1.4 $\times 10^{14}$ | No nitro-gen | 8.9 $\times 10^{13}$ | 8.9 $\times 10^{13}$ |
| Base oxidation | Temperature | 950°C | 950°C | 1000°C | 1050°C | 1100°C | 950°C |
| | Time | 9.5 h | 9.5 h | 5 h | 4 h | 3 h | 2 h |
| | Film thickness | 1 μm | 1 μm | 1 μm | 1 μm | 1 μm | 0.4 μm |
| Shortly after base oxidation | Change in resistivity | No change | No change | No change | No change | No change | Chan-ged |
| Heat treatment in SOI production process | Bonding stabili-zation | 950°C oxida-tion | 950°C oxida-tion | 950°C oxida-tion | 950°C oxida-tion | 950°C oxida-tion | - |
| | Roughness improvement | 1200°C Ar | 1200°C Ar | 1200°C Ar | 1200°C Ar | 1200°C Ar | - |
| | Film thickness adjustment | 950°C oxida-tion | 950°C oxida-tion | 950°C oxida-tion | 950°C oxida-tion | 950°C oxida-tion | - |
| Shortly after completion of SOI wafer | Change in resistivity | No change | No change | No change | No change | No change | Chan-ged |
| | Slip | No slip | No slip | No slip | Slip gene-rated | Slip gene-rated | - |
| After device production heat treatment | Change in resistivity | - | No change | No change | No change | No change | Chan-ged |
| | Slip | - | No slip | No slip | Slip gene-rated | Slip gene-rated | - |

[0055]

(Example 2)

As a base wafer, a CZ silicon single crystal wafer having an oxygen concentration of 6.8 ppma (ASTM’79), a resistivity of 2000 Ω·cm, and a nitrogen concentration of 8.9 × 10$^{13}$ atoms/cm$^3$, the CZ silicon single crystal wafer which was 300 mm in diameter and p-type and whose crystal orientation was <100>, was prepared.

[0056]

Then, in the same manner as in Example 1, an oxide film was formed on the base wafer.

[0057]