



| Crystal Properties                                |                       |  |      |
|---|-----------------------|--|------|
| PARAMETER   | UNITS                 | SPECIFICATION                            | NOTE |
| Crystalline structure                             | -                     | Monocrystalline                          |      |
| Growth technique                                  | -                     | Czochralski (Cz)                         |      |
| Orientation                                       | -                     | $\langle 100 \rangle \pm 1^\circ$        |      |
| Slice orientation                                 | Degrees               | $0N \pm 1.0^\circ$                       |      |
| Electrical Properties                             |                       |  |      |
| PARAMETER   | UNITS                 | SPECIFICATION                            | NOTE |
| Conductance type                                  | -                     | P-type                                   |      |
| Dopant  | -                     | Boron                                    |      |
| Resistivity                                       | $\Omega\text{-cm}$    | 0.01 – 0.02                              |      |
| Geometrical Properties                            |                       |  |      |
| PARAMETER   | UNITS                 | SPECIFICATION                            | NOTE |
| Diameter  | mm                    | 100 $\pm$ 0.50                           |      |
| Thickness   | $\mu\text{m}$         | 525 $\pm$ 25                             |      |
| TTV   | $\mu\text{m}$         | $\leq 7$                                 |      |
| Warp  | $\mu\text{m}$         | $\leq 30$                                |      |
| Bow   | $\mu\text{m}$         | $\leq 30$                                |      |
| Flats   | -                     | 2 per SEMI Standard                      |      |
| Primary flat length                               | mm                    | 32.50 $\pm$ 2.50                         |      |
| Primary flat orientation                          | -                     | $\langle 110 \rangle \pm 1^\circ$        |      |
| Secondary flat location                           | -                     | $90^\circ \pm 5^\circ$ from primary flat |      |
| Secondary flat length                             | mm                    | 18.00 $\pm$ 2.00                         |      |
| Surface Appearance                                |                       |  |      |
| PARAMETER   | UNITS                 | SPECIFICATION                            | NOTE |
| Front surface                                     | -                     | Polished                                 |      |
| Back surface                                      | -                     | Etched                                   |      |
| Frontside particles $\geq 0.30 \mu\text{m}$ (LPD) | No./wafer             | $\leq 10$                                |      |
| Nominal edge exclusion                            | mm                    | 3.0                                      |      |
| Wafer Identification                              |                       |  |      |
| PARAMETER   | UNITS                 | SPECIFICATION                            | NOTE |
| Lasermark   | -                     | None                                     |      |
| Surface Metals                                    |                       |  |      |
| APPLICABLE METALS                                 | UNITS                 | SPECIFICATION                            | NOTE |
| Al, Ca, Cl, Cr, Cu, Fe, K, Na, Ni, Zn             | Atoms/cm <sup>2</sup> | $\leq 5E10$                              |      |