

P-type-M10 (182.2×182.2\*247) A

# Monocrystalline Wafer



Comprehensive system certification

ISO9001:2022

ISO14001:2022

ISO45001:2022

# Gokin

Key parameters

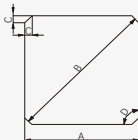
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|                            |           |                         |
|----------------------------|-----------|-------------------------|
| Conductivity type          | P-type    | PN testing machine      |
| Dopant                     | 镓 (Ga)    | /                       |
| Resistivity/ $\Omega$ -cm  | 0.4-1.1   | Wafer inspection system |
| Lifetime/ $\mu$ s          | $\geq 70$ | BCT-400                 |
| Oxygen concentration/ppma  | $\leq 16$ | FTIR (ASTM F121-83)     |
| Carbon Concentration /ppma | $\leq 1$  | FTIR (ASTM F123-91)     |

Material properties

|                                                           |                                                     |                                           |
|-----------------------------------------------------------|-----------------------------------------------------|-------------------------------------------|
| Growth method                                             | CZ                                                  | /                                         |
| Crystallinity                                             | Monocrystalline                                     | /                                         |
| Etch pit density (dislocation density)/pcs/ $\text{cm}^2$ | $\leq 500$                                          | Preferential Etch Techniques(ASTM F47-88) |
| Surface orientation/ $^\circ$                             | $\langle 100 \rangle \pm 3$                         | X-ray Diffraction Method                  |
| Orientation of pseudo square sides/ $^\circ$              | $\langle 010 \rangle$ , $\langle 001 \rangle \pm 3$ | X-ray Diffraction Method                  |

Geometric dimensions and surface properties

|                                        |                                                                                                        |                                                                                                                                                   |
|----------------------------------------|--------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Wafer model                            | M10                                                                                                    | /                                                                                                                                                 |
| Geometry                               | Quasi square                                                                                           | /                                                                                                                                                 |
| Bevel edge shape                       | Round                                                                                                  | /                                                                                                                                                 |
| Wafer Side length/mm                   | 182.2/182.2 $\pm$ 0.25                                                                                 | AOI                                                                                                                                               |
| Wafer Diameter/mm                      | 247 $\pm$ 0.25                                                                                         | AOI                                                                                                                                               |
| Arc length projection/mm               | 7.72 $\pm$ 0.5                                                                                         | AOI                                                                                                                                               |
| Angle between adjacent sides/ $^\circ$ | 90 $\pm$ 0.15                                                                                          | AOI                                                                                                                                               |
| Thickness/ $\mu$ m                     | 140/150/155 $\pm$ 10                                                                                   | AOI                                                                                                                                               |
| Batch mean/ $\mu$ m                    | $\geq 140/150/155$                                                                                     | AOI                                                                                                                                               |
| TTV/ $\mu$ m                           | $\leq 25$                                                                                              | AOI                                                                                                                                               |
| Saw Mark/ $\mu$ m                      | $\leq 15$                                                                                              | AOI                                                                                                                                               |
| Bow/ $\mu$ m                           | $\leq 40$                                                                                              | AOI                                                                                                                                               |
| Warpage/ $\mu$ m                       | $\leq 40$                                                                                              | AOI                                                                                                                                               |
| Cutting method                         | DW                                                                                                     | /                                                                                                                                                 |
| Surface quality                        | No visual defects (no stains、no finger prints、no oil、no glue ).<br>No color difference, No bright line | AOI                                                                                                                                               |
| Chipping                               | Depth $\leq$ 0.3 mm , Length $\leq$ 0.5 mm;<br>Count $\leq$ 2 /pcs, no V-chip                          | Naked eyes or wafer inspection system                                                                                                             |
| Micro cracks / holes                   | None                                                                                                   | AOI                                                                                                                                               |
| Schematic diagram of wafer size        |                     | A.Shape/Size: 182.2 $\pm$ 0.25 mm<br>B.Diagonal: 247 $\pm$ 0.25 mm<br>C.Corner Length: 7.72 $\pm$ 0.5 mm<br>D.Right Angle: 90 $\pm$ 0.15 $^\circ$ |