



Monocrystalline Wafer

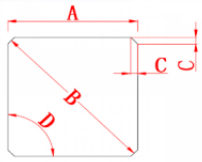
Comprehensive system certification

ISO 9001:2015

ISO 14001:2015

OHSAS 18001:2018

Schematic diagram of wafer size



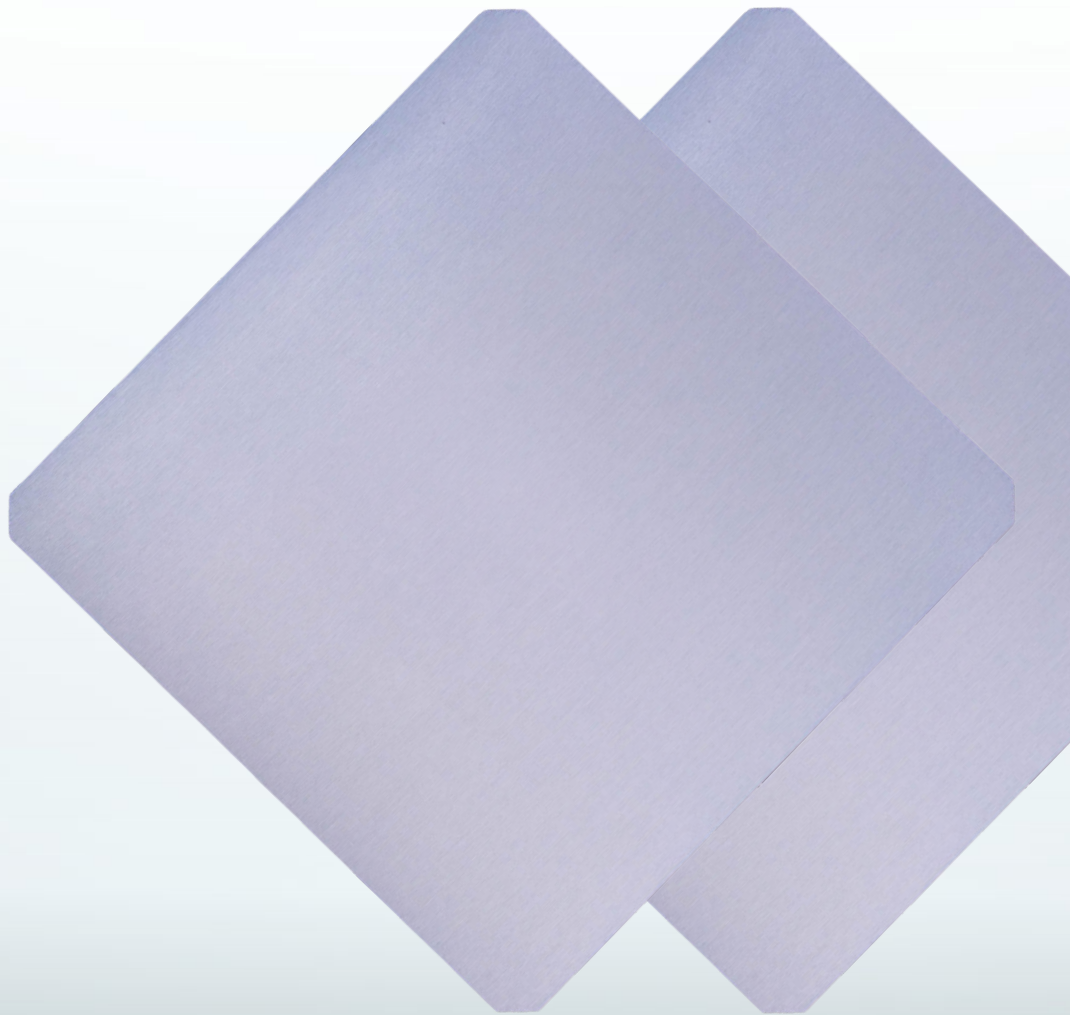
Size: M10

A: 182.2 ± 0.25 mm

B: $\phi 247 \pm 0.25$ mm

C: 7.72 ± 0.5 mm

D: $90 \pm 0.15^\circ$



N-type-M10-Res0.4~1.6-A Grade

Monocrystalline Wafer Specification

N-type-M10-Res0.4~1.6-A Grade

Key parameters

Conductivity type	N-type	P/N type tester(DLY-2 P/N)
Dopant	Phos.(磷)	--
Resistivity/ Ω .cm	0.4-1.6	Wafer inspection system
MCLT(Minority carrier lifetime)/ μ s	≥ 1000	Transient ₃ with injection level:5E14cm ⁻³ (Sinton BCT-400)
Oxygen concentration [Oi]/at/cm ³	$\leq 6.0 \times 10^{17}$	FTIR(ASTM F121-83)
Carbon Concentration [Cs]/at/cm ³	$\leq 5.0 \times 10^{16}$	FTIR(GB/T 1558-2009)

Material properties

Growth method	CZ	--
Crystallinity	Monocrystalline	--
Etch pit density (dislocation density)/pcs/cm ²	≤ 500	Preferential Etch Techniques(ASTM F47-88)
Surface orientation/ $^{\circ}$	$\langle 100 \rangle \pm 3$	X-ray Diffraction Method (ASTM F26-1987)
Orientation of pseudo square sides/ $^{\circ}$	$\langle 010 \rangle, \langle 001 \rangle \pm 3$	X-ray Diffraction Method (ASTM F26-1987)

Geometric dimensions and surface properties

Wafer model	M10	--
Geometry	Pseudo square	--
Bevel edge shape	Round	--
Wafer Side length/mm	182.2 ± 0.25	Wafer inspection system
Wafer Diameter/mm	$\phi 247 \pm 0.25$	Wafer inspection system
Arc length projection/mm	7.72 ± 0.5	Wafer inspection system
Angle between adjacent sides/ $^{\circ}$	90 ± 0.15	Wafer inspection system
Thickness/ μ m	130 ± 8	Wafer inspection system
Batch mean/ μ m	≥ 130	Wafer inspection system
Total thickness variation/ μ m	≤ 20	Wafer inspection system
Saw marks/ μ m	≤ 13	Wafer inspection system
Bow/ μ m	≤ 40	Wafer inspection system
Warp/ μ m	≤ 40	Wafer inspection system
Cutting method	DW	--
Surface quality	as cut and cleaned, no visible contamination, color difference (as determined by standard sample) (oil or grease, finger prints, spot stains, epoxy/glue residue are not allowed)	Wafer inspection system
Chip	depth ≤ 0.3 mm & length ≤ 0.5 mm,Max 1/pcs, no V-chip	Naked eyes or wafer inspection system
Micro cracks / holes	Not allowed	Wafer inspection system

