

Monocrystalline Silicon Wafers

N-type - YSG210 - Res0.4 - Grade A



Single-line
production capacity
greatly enhanced



Energy consumption
and material
consumption greatly
reduced



Industry-leading
quality standards

Comprehensive Product and System Certification

- ISO9001:2015 Quality Management System
- ISO14001:2015 Environmental Management System
- ISO45001:2018 Occupational Health and Safety Management System

Monocrystalline Silicon Wafer Specification

N-type - YSG210 - Res0.4 - Grade A

Key Parameters

Conductivity Type	N-type	P/N-type Tester (DLY-2P/N)
Doped Elements	Ga. (Gallium)	--
Resistivity / $\Omega \cdot \text{cm}$	0.4-1.1	Wafer Automatic Inspection Equipment
Lifetime / μs	≥ 70	Quasi-steady-state photoconductivity decay method / Transient photoconductivity decay method Injection Level: $1\text{E}15\text{cm}$ (Sinton BCT-400)
Interstitial Oxygen Content: at/cm^3	$\leq 8.0 \times 10^{17}$	Fourier Transform Infrared Spectrometer (ASTMF121-83)
Substitutional Carbon Content: at/cm^3	$\leq 5.0 \times 10^{16}$	Fourier Transform Infrared Spectrometer (GB/T1588-2009)

Material Properties

Growth Method	Czochralski Method	--
Crystallinity	Monocrystalline	Selective Chemical Etching Method (ASTM F47-88)
Dislocation Density/PCS/ cm^2	≤ 500	X-Ray Diffractometer (ASTMF26-1987)
Surface Crystal Orientation	$\langle 100 \rangle \pm 3$	X-Ray Diffractometer (ASTMF26-1987)
Lateral Crystal Orientation	$\langle 010 \rangle, \langle 001 \rangle \pm 3$	X-Ray Diffractometer (ASTMF26-1987)

Geometric Dimensions and Surface Properties

Silicon Wafer Model	YSG210	--
Geometric Shape	Fully Square	--
Chamfer Edge Shape	Arc	--
Silicon Wafer Margin / mm	210 ± 0.25	Wafer Automatic Inspection Equipment
Wafer Diameter / mm	$\phi 295 \pm 0.25$	Wafer Automatic Inspection Equipment
Verticality	90 ± 0.15	Wafer Automatic Inspection Equipment
Thickness / μm	135 ± 10 150 ± 10	Wafer Automatic Inspection Equipment
Batch Thickness / μm	≥ 155 ≥ 130	Wafer Automatic Inspection Equipment
TTV/ μm	≤ 25	Wafer Automatic Inspection Equipment
Line mark / μm	≤ 15	Wafer Automatic Inspection Equipment
Bending / μm	≤ 40	Wafer Automatic Inspection Equipment
Warpage / μm	≤ 40	Wafer Automatic Inspection Equipment
Cutting Method	Diamond Wire Cutting	--
Surface Quality	The surface is clean and free from visible contamination (no oil stains, fingerprints, spots, mortar residue, glue residue)	Wafer Automatic Inspection Equipment
Chipping	Depth $\leq 0.33 \text{ mm}$ & length $\leq 0.55 \text{ mm}$, no more than 1 per wafer, no V-shaped edge chipping	Inspected manually or by wafer automatic inspection equipment
Cracks and air holes	Not allowed	Wafer Automatic Inspection Equipment

Schematic Diagram of Silicon Wafer Dimensions

Size: G12

A: $210 \pm 0.25\text{mm}$

B: $\phi 295 \pm 0.25\text{mm}$

C: $1.41 \pm 0.45\text{mm}$

D: $90 \pm 0.15^\circ$

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