

M10/G12 MONO SILICON WAFER

P TYPE

Our in-house manufacturing ensures complete control over the production process, allowing us to deliver customized, high-quality silicon wafers tailored to your exact specifications.

METICULOUSLY CRAFTED PERFORMANCE

Advantages



Tailored Precision

With our expertise and attention to detail, we deliver tailored silicon wafers that meet the specific dimensions, surface specifications, and other unique preferences of our clients with unparalleled accuracy.



Advanced Equipment

Our silicon wafers are produced using a mature manufacturing process that seamlessly integrates with cutting-edge equipment, ensuring efficient and reliable production.

Reliably Built.

Imperial Star is a solar manufacturer committed to empowering PV excellence in America. With a rich, 10-year manufacturing legacy, Imperial Star delivers 3 GW of PV Module capacity through its integrated and dependable supply chain.

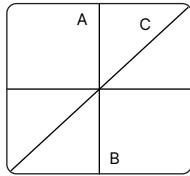
Material Properties

Properties	Specification	Inspection Method
Conductivity Type	P-type	P Testing Machine
Wafer Grade	A	
Growth Method	CZ	
Oxygen Contents (ppma)	$\leq 7.5E+17$ at/cm ³	FTIR (ASTMF121-83)
Carbon Contents (ppma)	$\leq 5E+16$ at/cm ³	FTIR (ASTMF123-91)
Surface Orientation	$<100> \pm 3^\circ$	X-ray Diffraction Method
Side Orientation	$<010>, <001> \pm 3^\circ$	X-ray Diffraction Method
Etch Pit Display (Dislocation Density)	≤ 500 cm ³	Preferential Etch Techniques (ASTM F47-88)

Electrical Properties

Properties	Specification	Inspection Method
Conductivity Type	P-type	P Testing Machine
Wafer Grade	A	
Resistivity (Ω.cm)	0.4- 1.1	Wafer Inspection System
Lifetime(μs)	≥ 70 μs	QSSPC/PCD method

Geometric Dimensions

Properties	Specification	Inspection Method/Criteria
Square	M10 182* 182*φ247mm	P Testing Machine
Square	M10 182.2* 182.2*φ247mm	
Square	G12 210*210*φ295mm	
Square	G12+ 218.2*218.2*φ306.6mm	FTIR (ASTMF121-83)
Rectangle	M10-L 182.2* 183.75*φ247mm M11-L 182.2* 191.6*φ262.5mm	 <p>A/B (length): 0.25mm, C (diagonal): 0.25mm Inspection Instruments: Calipers, Wafer Inspection System</p>

Thickness and Appearance

Properties	Specification	Inspection Method
Thickness	150-10/+20μm 145-10/+20μm 140-10/+20μm	Wafer Inspection System
Total Thickness Variation (TTV)	≤ 27 μm	Wafer Inspection System
Warp	≤ 40 μm	Wafer Inspection System
Side Length	size ± 0.25 mm	Wafer Inspection System
Diagonal Length	size ± 0.25 mm	Wafer Inspection System
Verticality	$90 \pm 0.2^\circ$	Wafer Inspection System
Scratch/Notch/Hole	None	Wafer Inspection System/Visual
Contamination/Haze/Residual	None	Wafer Inspection System/Visual
Chip	Length ≤ 500 μm Depth ≤ 300 μm	Wafer Inspection System/Visual
Saw Mark	≤ 500 cm ³	Wafer Inspection System
Micro Cracks	None	Wafer Inspection System/Visual
Line Texture Direction	Horizontal	Wafer Inspection System/Visual