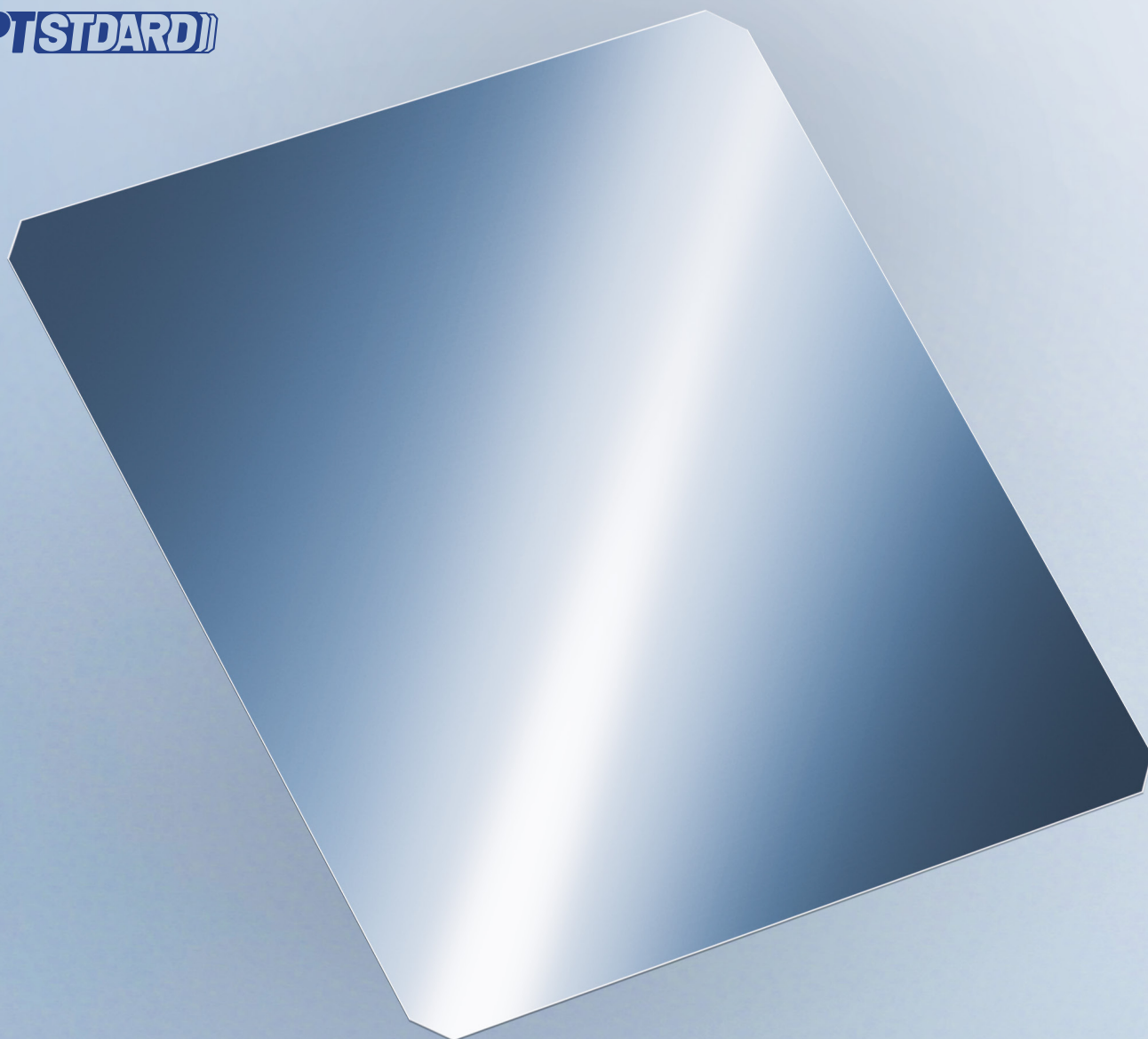




Mono Silicon Wafer

Data Sheet

N-Type 182.2*183.75±0.25mm

PT.Standard Energy Indonesia

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Data Sheet

N-Type 182.2*183.75±0.25mm

Material Performance Parameters

Conductivity Type	N	P/N testing machine
Dopant	Phosphorus	/
Crystallinity	Single crystal	Preferential etch techniques (ASTM F47-88)
Etch pit density (dislocation density)	$\leq 500\text{cm}^2$	Preferential etch techniques (ASTM F47-88)
Surface orientation	$\langle 100 \rangle \pm 3^\circ$	X-ray diffraction
Side orientation	$\langle 010 \rangle, \langle 001 \rangle \pm 3^\circ$	X-ray diffraction
Oxygen contents (ppma)	≤ 11	FTIR (ASTM F121-83)
Carbon contents (ppma)	≤ 1	FTIR (ASTM F123-91)
Lifetime (μs)	≥ 1000	BCT-400
Resistivity ($\Omega\cdot\text{cm}$)	0.6-1.6	Silicon wafer automatic inspection equipment

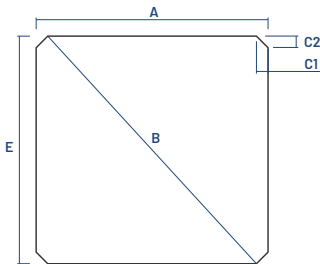
Geometric Rule Parameters

Geometry	Quasi square	/
Chamfered edge shape	Round	/
Wafer margins (mm)	Short edge: 182.2 ± 0.25	Silicon wafer automatic inspection equipment
	Long edge: 183.75 ± 0.25	Silicon wafer automatic inspection equipment
Wafer diameter (mm)	$\phi 247 \pm 0.25\text{mm}$	Silicon wafer automatic inspection equipment
Arc length projection (mm)	$8.57/8.49 \pm 0.5\text{mm}$	Silicon wafer automatic inspection equipment
Perpendicularity	$90 \pm 0.15^\circ$	Silicon wafer automatic inspection equipment
Thickness specification (μm)	130/135±10	Silicon wafer automatic inspection equipment

Appearance Quality

Surface quality	No visible pollution	Silicon wafer automatic inspection equipment
	No color difference, No bright lines	
Edge Chipping	Depth $\leq 0.3\text{mm}$, Length $\leq 0.5\text{mm}$	Silicon wafer automatic inspection equipment
	Count $\leq 1/\text{pcs}$, no V-shaped	
Saw mark (μm)	≤ 15	Silicon wafer automatic inspection equipment
Warpage/bending degree (μm)	≤ 40	Silicon wafer automatic inspection equipment
TTV (μm)	≤ 25	Silicon wafer automatic inspection equipment
Micro-crack/void	None	Silicon wafer automatic inspection equipment

Wafer dimensions



Size: 182.2*183.75±0.25mm

A: 182.2±0.25mm

E: 183.75±0.25mm

B: $\phi 247 \pm 0.25\text{mm}$

C1: 8.56±0.5mm

C2: 8.49±0.5mm