

 **ES2-PSA SAPPHIRE
EPI READY POLISHED
SUBSTRATE**



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ES2-PSA SAPPHIRE EPI READY POLISHED SUBSTRATE

Sapphire Epi Polished Wafers are ultra flat, super clean, stress-free polished substrates. These are offered with precision orientations and offsets, wafer-to-wafer uniformity with multiple surfaces finished. These wafers are custom designed to optimize customers' unique specification and final application.

Material	ES2 High Purity Sapphire (99.999%)
Bubble/Color	None by visual inspection under high intensity light
Grain Boundary/Lineage	None by visual inspection under polarized light
Orientation	C –Plane (0001) A –Plane (11-20) R –Plane (10-12) M –Plane (10-10) Random
Orientation Tilt Tolerance	Customer Preference up to 6" $\pm 0.05^\circ$ up to 8" $\pm 0.10^\circ$
Diameter	Up to 200 mm
Flatness (Focal Plane Deviation)	Up to 6" $\leq 4.0 \mu\text{m}$ Up to 8" $\leq 6.0 \mu\text{m}$
BOW	Up to 6" $0 \pm 15 \mu\text{m}$ Up to 8" $0 \pm 20 \mu\text{m}$
WARP	Up to 6" $\leq 30 \mu\text{m}$ Up to 8" $\leq 40 \mu\text{m}$
TTV	Up to 8" $\leq 20 \mu\text{m}$
Thickness Tolerance	Customer Preference $\pm 25 \mu\text{m}$
Surface Finish	Up to $R_a \leq 0.2 \text{ nm}$ for front side Up to $R_a \leq 1 \mu\text{m}$ for back side
Orientation Flat/Notch	SEMI/JEITA standard
Edge Bevel	Industry Standard
Cleanliness	Surface to be free from all visual contaminants
Packaging	Vacuum-sealed containers with nitrogen backfill in a class 100 environment
Available Option	Laser Marking Optical Polished Finish Single Side Epi Ready Finish Double Side Epi Ready Finish

Custom Specifications not listed above are also available

