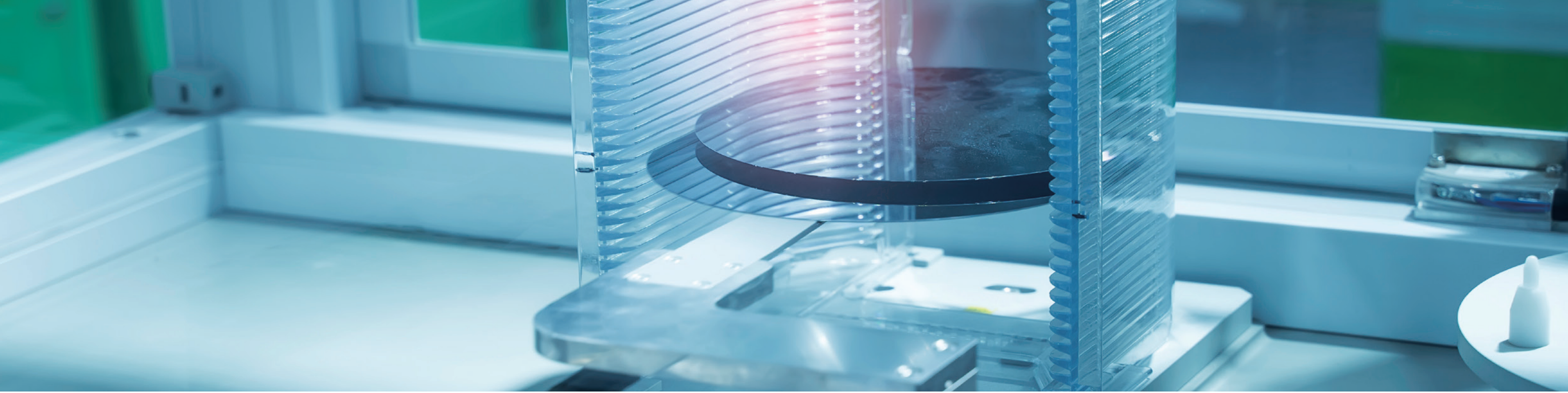

6 INCH CONDUCTIVE SIC Substrate Specification

Grade	Zero MPD Production Grade (Z Grade)	Dummy Grade (D Grade)
Diameter	149.5 mm ~ 150.0 mm	149.5 mm ~ 150.0 mm
Poly-type	4H	4H
Thickness	350 μm ± 15 μm	350 μm ± 25 μm
Wafer Orientation	Off axis : 4.0° toward < $11\bar{2}0$ > ± 0.5°	Off axis : 4.0° toward < $11\bar{2}0$ > ± 0.5°
Micropipe Density	≤ 0.2 cm^{-2}	≤ 15 cm^{-2}
Resistivity	0.015 ~ 0.024 Ω·cm	0.015 ~ 0.028 Ω·cm
Primary Flat Orientation	{10-10} ± 5.0°	{10-10} ± 5.0°
Primary Flat Length	47.5 mm ± 2.0 mm	47.5 mm ± 2.0 mm
Edge Exclusion	3 mm	3 mm
LTV / TTV / Bow / Warp	≤ 2.5 μm / ≤ 6 μm / ≤ 25 μm / ≤ 35 μm	≤ 5 μm / ≤ 15 μm / ≤ 40 μm / ≤ 60 μm
Roughness	Polish Ra ≤ 1 nm	Polish Ra ≤ 1 nm
	CMP Ra ≤ 0.2 nm	CMP Ra ≤ 0.5 nm
Edge Cracks By High Intensity Light	—	Cumulative length ≤ 20 mm single length ≤ 2 mm
Hex Plates By High Intensity Light	Cumulative area ≤ 0.05%	Cumulative area ≤ 0.1%
Polytype Areas By High Intensity Light	—	Cumulative area ≤ 3%
Visual Carbon Inclusions	Cumulative area ≤ 0.05%	Cumulative area ≤ 3%
Silicon Surface Scratches By High Intensity Light	—	Cumulative length ≤1 × wafer diameter
Edge Chips High By Intensity Light	None permitted ≥ 0.2 mm width and depth	7 allowed, ≤ 1 mm each
Threading Screw Dislocation	≤ 500 cm^{-2}	—
Silicon Surface Contamination By High Intensity Light	—	—
Packaging	Multi-wafer Cassette Or Single Wafer Container	Multi-wafer Cassette Or Single Wafer Container

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