

6 inch Diameter HPSI 4H SiC Substrate Specifications

Property	Unit	P	R	D
Diameter	mm	149.8~150.0		149.5~150.5
Thickness	μm	500±25		500±25
Surface Orientation		<0001>±0.2°		<0001>±0.5°
Resistivity(Minimum)	Ω·cm	≥1E10		≥1E8
Primary Flat Orientation		{10 10}±5.0°		{10 10}±5.0°
Notch Depth	mm	1.0~1.5		0.5~2.0
LTV-Max (10mm*10mm)	μm	≤2.5		≤5
TTV	μm	≤7		≤10
Bow	μm	0 ± 20		0±30
Warp	μm	≤30		≤45
Surface Roughness	nm	C-face:Polish Ra<1.0 Si-face:CMP Ra<0.3		C-face:Polish Ra<1.0 Si-face:CMP Ra<0.3
Foreign Polytypes*		None	None, edge exclusion 3mm	None, edge exclusion 5mm
Polycrystal*		None	None, edge exclusion 3mm	None, edge exclusion 5mm
Hex Plates by High Intensity Light*		None	None, edge exclusion 3mm	None, edge exclusion 5mm
Micropipe Density	cm ⁻²	≤0.3	≤1	≤50
Pinholes	number	None	1 allowed	N/A
FWHM(0004)	arcsec	Maximum≤ 80	Maximum≤ 100	N/A
Cracks*	number	None	None, edge exclusion 3mm	None, edge exclusion 5mm
Edge Chips	number	None	2 allowed, <1.0mm width & depth	
Visible Scratch#	mm	None		
Microcosmic Scratch#	mm	Total length≤100	Total length≤100	Total length≤250
Surface Contamination		None		

*Defects limits apply to entire wafer surface except for the edge exclusion area.
 #The defects should be checked on Si face only.
 Product with other specifications can be customized.