

6-inch 4H n-Type Silicon Carbide Product Specifications

Property	MOS grade	SBD grade	Research grade	Dummy grade	Units
Crystal Characteristics					
Polytype	4H				
Doping Type	n-type				
Dopant	Nitrogen				
Surface Orientation	4.0° toward <11-20> ± 0.5°			Any item out of Research grade Spec	degree
Resistivity	0.014~0.025				Ohm-cm
Wafer Mechanical Characteristics					
Diameter	150.0 ± 0.25			Any item out of Research grade Spec	mm
Thickness	350.0 ± 25.0				μm
Prime Flat Length	47.5 ± 1.5				mm
Bow	≤ 30				μm
Warp	≤ 35		≤ 45		μm
Total Thickness Variation (TTV)	≤ 5		≤ 10		μm
Local Thickness Variation (LTV)	≤ 2		≤ 4		μm
Surface Roughness	≤ 0.2				nm
Substrate Quality					
Etch Pit Density (EPD)	≤ 6500	≤ 7000	≤ 8000	Any item out of Research grade Spec	ea/cm ²
Basal Plane Dislocation (BPD)	≤ 600	≤ 800	≤ 1500		ea/cm ²
Threading Screw Dislocation (TSD)	≤ 20	≤ 200	≤ 400		ea/cm ²
Threading Edge Dislocation (TED)	≤ 6000	≤ 6500	≤ 7000		ea/cm ²
Micropipe (MPD)	≤ 0.1	≤ 0.3	≤ 0.5		ea/cm ²
Edge Chips and Indents	0				ea
Visual Carbon Inclusions	0		≤ 0.0004		% area
Visible Scratches	0				mm
Cracks	0				ea
Metal (K,Ca,Ti,Cr,Mn,Fe,Co,Ni,Cu,Zn)	≤ 5E+10				atoms/cm ²