SUN+UP

N-type Silicon Carbide Substrate Specification

Sunup SiC ver.230929

Sunup ID	**S6P-001**	**S6D-001**	**S6M-001**
Grade	Prime Grade	Dummy Grade	Mechanical grade
Poly type	4H	4H	4H
Diameter	150 mm ± 0.25 mm	150 mm ± 0.25 mm	150 mm ± 0.25 mm
Surface Orientation Off-axis	4.0 ˚ toward <11-20>± 0.5°	4.0 ˚ toward <11-20>± 0.5°	4.0 ˚ toward <11-20>± 0.5°
Primary Flat Orientation	<1-100>±5.0°	<1-100>±5.0°	<1-100>±5.0°
Primary Flat Length	47.5 mm±2.0 mm	47.5 mm±2.0 mm	47.5 mm±2.0 mm
TTV	≦10 μm	≦15 μm	≦15 μm
LTV (10*10mm,Max)	≦5 μm	≦5 μm	N/A
BOW (ablolute value)	≦30 μm	≦35 μm	≦45 μm
WARP	≦40 μm	≦40 μm	≦65 μm
TED	3000 ea/cm2	N/A	N/A
BPD	1500 ea/cm2	N/A	N/A
TSD	400 ea/cm2	N/A	N/A
Wafer Edge	Chamfer	Chamfer	Chamfer
Micropipe Density	≦1 micropipes/cm^2	≦10 micropipes/cm^2	N/A
Polytype areas by high-intensity light	None permitted	≦10 % area	N/A
Resistivity	0.015Ω·cm ~ 0.025Ω·cm	0.015Ω·cm ~ 0.028Ω·cm	≦ 0.040Ω·cm
Thickness	350 μm ± 25.0 μm	350 μm ± 25.0 μm	350 μm ± 25.0 μm
Surface finish	Double Side Polish	Double Side Polish	Double Side Polish
Surface Roughness	CMP Si Face Ra ≦0.5 nm	CMP Si Face Ra ≦0.5 nm	N/A
Scratch (by CS8520)	Total length ≦ 75 mm	Total length ≦ 150 mm	N/A
Cracks by high-intensity light	None Permitted	None Permitted	None Permitted
Edge Chip /indents by diffuse lighting	None permitted	Qty2<1.0mm width and depth	N/A
Edge Exclusion	3mm	3mm	3mm