Synlight 150mm N-Type SiC Ingot Substrate Specification

Parameter	Unit	Specification			Remark
Grade		Production Grade for MOS	Production Grade for SBD	Dummy Grade	
Diameter	mm	150±0.2		150±0.5	
Thickness	mm	≥13mm		≥10mm	
Polytype		4H-SiC			
Surface Orientation		4.0°toward<11`20>±0.5°		N/A	
Dopant		Nitrogen			
Resistivity	Ω·cm	0.015~0.025		0.012-0.028	
Primary Flat Orientation		{10 -10}±1.0°		{10 -10}±5.0°	
Primary Flat Length	mm	47.5±1.5		47.5±2.5	
Secondary Flat Length		None			
Micropipe Density	cm^{-2}	≤0.1	≤0.2	≤1	Both wafers from seed and dome side satisfy this value
TED	cm^{-2}	< 2000	<6000	< 10000	KOH etching / Average value of wafers from seed and dome side
BPD	cm^{-2}	< 500	<1000	<3000	KOH etching / Average value of wafers from seed and dome side

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Parameter	Unit	Specification			Remark
Grade		**Production Grade for MOS**	**Production Grade for SBD**	**Dummy Grade**	
TSD	cm^{-2}	< 100	<500	< 3000	KOH etching / Average value of wafers from seed and dome side
Foreign Polytypes*		None		Allowed within 5mm edge exclusion area	
Poly crystal*		None		Allowed within 5mm edge exclusion area	
Hex Plates by High Intensity Light*		None		Allowed within 3mm edge exclusion area	
Pinholes	number	None		N/A	
Cracks*	number	None		≤3mm	
Edge Chips	number	None		≤0.5mm	
Marking		Laser marking on Si-face			
*Defects limits apply to entire wafer surface including the edge exclusion area. Product with other specifications can be customized.					

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