6” SiC Epitaxial Specification

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Item		Specification	Measurement Technique
1	**Substrate**		
1.1	Poly-type	4H	--
1.2	Diameter	6” (150mm)	--
1.3	Off Orientation	4deg off	--
1.4	Dopant	N-type	--
2	**N2-doped 4H-SiC, Thickness: 5um, Doping Level: $1x10^{16}$**	Edge Exclusion: 5mm	
2.1	Thickness Uniformity	σ/mean ≤ 10%	FTIR (41 points)
2.2	Doping Uniformity	σ/mean ≤ 20%	CV (41 points)
3	**Wafer-to-Wafer Variation (Minimum Load of 3 Wafers)**	Edge Exclusion: 5mm	
3.1	Mean Thickness of All Wafers	σ/mean ≤ 5%	FTIR, from each wafer average
3.2	Mean Doping of All Wafers	σ/mean ≤ 10%	CV, from each wafer average
4	**Run-to-Run Variation (3 Continuous Runs)**	Edge Exclusion: 5mm	
4.1	Mean Thickness of All Wafers	σ/mean ≤ 5%	FTIR, 3 continuous runs
4.2	Mean Doping of All Wafers	σ/mean ≤ 10%	CV, 3 continuous runs
5	**Epi Defects**		
5.1	Total Killer Defects	< $2.0/cm^2$	Candela CS920
5.2	Total Scratch Length	(0.3um) < 150mm	Candela CS920
6	**Surface Roughness**	Ra ≤ 0.3nm	AFM, 5um x 5um (3 points) [NOTE-1]

[NOTE-1] AFM: monitor