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: 5~30um, Doping Level: $1x10^{15}$~$3x10^{16}$**	Edge Exclusion: 5mm	
2.1	Thickness Uniformity	σ/mean ≤ 4%	FTIR (9 points)
2.2	Doping Uniformity	σ/mean ≤ 10%	CV (9 points)
3	**Run-to-Run Variation (3 Continuous Runs)**	Edge Exclusion: 5mm	
3.1	Mean Thickness of All Wafers	σ/mean ≤ 1%	FTIR, 3 continuous runs
3.2	Mean Doping of All Wafers	σ/mean ≤ 1.5%	CV, 3 continuous runs
4	**Epi Defects**		
4.1	Usable area(3*3 mm2)	≧ 90%	Candela CS920
4.2	SSF	< $1.5/cm^2$	Candela CS920
4.2	BPD	< $1.0/cm^2$	Candela CS920
5	**Surface Roughness**	Ra ≤ 0.3nm	AFM, 5um x 5um (3 points) [NOTE-1]
	[NOTE-1] AFM: monitor		
6	**Bow/Warp**	30~-30um/<60um	ADE9500