

6" GaN-on-Si Epitaxial Specification

Item	Specification	Uniformity	Typical	Measurement Condition	Sampling	
					Size / Frequency	
1	Surface Inspection					
1.1	Total Defect	≤ 1,000 ea	--	≤ 500 ea	KLA 6220	Whole lot
1.2	Edge Cracking	0	--	0	Spot light, naked eye	Whole lot
1.3	Scratch	0	--	0	Spot light, naked eye	Whole lot
1.4	Surface Roughness	≤ 0.5 nm	--	≤ 0.3 nm	AFM: monitor	5um x 5um, 5points
2	GaN Quality (arcsec)					
2.1	FWHM (002)	≤ 700	≤ 10%	≤ 5%	XRD	1pc / lot, 5pts / wafer
2.2	FWHM (102)	≤ 1,100	≤ 25%	≤ 15%	XRD	1pc / lot, 5pts / wafer
3	2DEG Monitor					
3.1	Mobility (cm ² /Vs)	≥ 1,450	--	> 1,600	Hall Measurement	1pc / lot, 3pts / wafer
3.2	Concentration (1/cm ²)	9.5E+12	≤ 12%	≤ 2%	Hall Measurement	1pc / lot, 3pts / wafer
4	Epitaxial Thickness	5.5 um	≤ 5%	≤ 3%	EpiTT	1pc / lot, 3pts / wafer
5	Warp (um)	< 75 um	--	< 70um	ADE9500	Whole lot
6	Buffer Leakage (A/mm)	< 1.0 E-7	--	--	--	For trial run only

[NOTE-1] Edge Exclusion = 5mm for 6"
Surface scanning available upon request