

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 | Candela CS920 | 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) | ≤ 500 | ≤ 16% | ≤ 12% | XRD | 1pc / lot, 5pts / wafer |
| 2.2 | FWHM (102) | ≤ 1,000 | ≤ 30% | ≤ 25% | 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, 5pts / wafer |
| 4 | Epitaxial Thickness | 5.5 um | ≤ 3% | ≤ 2% | EpiTT | 1pc / lot, 5pts / wafer |
| 5 | Warp (um) | < 75 um | -- | < 70um | ADE | 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