



TAISIC MATERIALS CORP.

# 盛新材料科技股份有限公司

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| 150mm N type substrate   | Prime (優選級)                                  | Production (產品級)                             | Research (研究級)                               | Dummy (樣品級)                                   |
|--|--|--|--|---|
| Type   | N-type SiC                                   | N-type SiC                                   | N-type SiC                                   | N-type SiC                                    |
| Material type  | SiC-N Conductive                             | SiC-N Conductive                             | SiC-N Conductive                             | SiC-N Conductive                              |
| Diameter   | 150 ± 0.25 mm                                | 150 ± 0.25 mm                                | 150 ± 0.25 mm                                | 150 ± 0.25 mm                                 |
| Thickness(off-axis)  | 350 ± 25um                                   | 350 ± 25um                                   | 350 ± 25um                                   | 350 ± 25um                                    |
| Dopant   | N  | N  | N  | N   |
| Resistivity (Ohm-cm)   | 0.015~0.028                                  | 0.015~0.028                                  | 0.015~0.028                                  | 0.015~0.028                                   |
| Surface orientation  | 4.0° toward[11 $\bar{2}$ 0], ± 0.5°          | 4.0° toward[11 $\bar{2}$ 0], ± 0.5°          | 4.0° toward[11 $\bar{2}$ 0], ± 0.5°          | 4.0° toward[11 $\bar{2}$ 0], ± 0.5°           |
| Si-face  | CMP  | CMP  | CMP  | CMP   |
| C-face   | Polished                                     | Polished                                     | Polished                                     | Polished                                      |
| Primary flat length  | 47.5mm ± 1.5mm                               | 47.5mm ± 1.5mm                               | 47.5mm ± 1.5mm                               | 47.5mm ± 1.5mm                                |
| Primary flat orientation   | [11 $\bar{2}$ 0] ± 5°                        | [11 $\bar{2}$ 0] ± 5°                        | [11 $\bar{2}$ 0] ± 5°                        | [11 $\bar{2}$ 0] ± 5°                         |
| TTV  | ≤ 10 um                                      | ≤ 10 um                                      | ≤ 10 um                                      | ≤ 15 um                                       |
| LTV(10 X 10mm) (LTV_Avg)   | ≤ 2 um                                       | ≤ 2 um                                       | ≤ 4 um                                       | ≤ 5 um  |
| Warp   | ≤ 40 um                                      | ≤ 40 um                                      | ≤ 40um                                       | ≤ 70um  |
| Bow (±)  | ≤ 25 um                                      | ≤ 25 um                                      | ≤ 30um                                       | ≤ 60um  |
| Crack by high intensity light  | None permitted                               | None permitted                               | None permitted                               | None permitted                                |
| Striations by high intensity light   | None permitted                               | None permitted                               | 3 allowed ≤ 3mm each                         | 10 allowed ≤ 10mm each                        |
| Scratch by optical surface inspection  | ≤ 5 scratches and Cumulative length ≤ 100 mm | ≤ 5 scratches and Cumulative length ≤ 150 mm | ≤ 5 scratches and Cumulative length ≤ 150 mm | ≤ 10 scratches and Cumulative length ≤ 200 mm |
| Edge exclusion area  | 3mm  | 3mm  | 3mm  | 3mm   |
| Micropipe Density (pcs/cm <sup>2</sup> )   | ≤ 0.5cm-2 for 100% of the wafers             | ≤ 1cm-2 for 100% of the wafers               | ≤ 5cm-2 for 100% of the wafers               | ≤ 10cm-2 for 100% of the wafers               |
| BPD (pcs/cm <sup>2</sup> )   | ≤ 1500                                       | N/A  | N/A  | N/A   |
| Chipping at the wafer edge   | None permitted ≥ 0.5mm width and depth       | None permitted ≥ 0.5mm width and depth       | Max. 2 pcs ≤ 1mm width and depth             | Max. 5 pcs ≤ 5mm width and depth              |
| Total usable area* Quantitative by automated optical surface inspection and 2mmx2mm site map | ≥ 95% area                                   | ≥ 90% area                                   | ≥ 70% area                                   | ≥ 50% area                                    |
| Polytype areas by diffuse lighting   | ≤ 1%   | ≤ 5%   | ≤ 5%   | ≤ 10%   |
| HEX plates by high intensity light   | None permitted                               | None permitted                               | None permitted                               | ≤ 10%   |
| Contamination(stains/discolored/mottled/cloudy) by high intensity light                      | None permitted                               | None permitted                               | None permitted                               | ≤ 10%   |

\* Polytypes include "inclusions" and "crystallites" .