



TAISIC MATERIALS CORP.

盛新材料科技股份有限公司

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150mm HPSI substrate	Prime (優選級)	Production (產品級)	Research (研究級)	Dummy (樣品級)
Type	Semi-Insulating SiC	Semi-Insulating SiC	Semi-Insulating SiC	Semi-Insulating SiC
Material type	SiC-4HSI	SiC-4HSI	SiC-4HSI	SiC-4HSI
Diameter	150 ± 0.25mm	150 ± 0.25mm	150 ± 0.25mm	150 ± 0.25mm
Thickness	500 ± 25um	500 ± 25um	500 ± 25um	500 ± 25um
Dopant	un-doped	un-doped	un-doped	un-doped
Resistivity (Ohm-cm)	≥1e9	≥1e7	≥1e6	≥1e5
Surface orientation	c-plane (0001), ± 0.2°	c-plane (0001), ± 0.25°	c-plane (0001), ± 1°	c-plane (0001), ± 2°
Si-face	CMP	CMP	CMP	CMP
C-face	Polished	Polished	Polished	Polished
Bisector of notch deep	1(+0.25,-0)mm	1(+0.25,-0)mm	1(+0.25,-0)mm	1(+0.25,-0)mm
Bisector of notch orientation	[11̄00] ± 5°	[11̄00] ± 5°	[11̄00] ± 5°	[11̄00] ± 5°
TTV	≤ 10 um	≤ 10 um	≤ 10 um	≤ 10 um
LTV(10 X 10mm) (LTV_Avg)	≤ 3 um	≤ 3 um	≤ 3 um	≤ 4 um
Warp	≤ 35 um	≤ 40um	≤ 40um	≤ 50um
Bow (±)	≤ 25 um	≤ 30um	≤ 30um	≤ 40um
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/cm2)	≤ 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
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%