

KEY ISSUES OF THE UV-NANOIMPRINT EQUIPMENT FOR SUB-50NM HALF-PITCH PATTERNS

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ABSTRACT

Nanoimprint lithography is a promising technology to produce sub-50nm half-pitch features on silicon chips. The contact-based nano lithography, such as thermal and/or UV nano-imprint, is well-known as the next generation lithography. Especially, the UV nano-imprint lithography technology has advantages of the simple process, low cost, high replication fidelity, and relatively high throughput(1). To achieve nano-imprinting process, nano-imprinting lithography equipment must have required some multi-functional units which are imprinting head, self-alignment wafer stage, overlay and alignment system for multi-layer process, master with sub-50nm half-pitch patterns, and anti-vibration unit, etc.