microlight3D

Smart Print UV

Maskless lithography system for rapid-prototyping

Microfluidics
Microelectronics
Biotechnologies
Optoelectronics

SMART PRINT UV is a maskless lithography equipment, based on a DMD projection technology, compatible with a wide range of resists and substrates. SMART PRINT UV can produce any 2D shapes at micron resolution without the need for a hard-mask.

Key features

– Writing resolution down to 1.5 µm
– Adjustable writing field and resolution with exchangeable objectives
– Compatible with CAD files or bitmap images
– Compatible with i, h and g-line photoresists
– Compatible with a wide range of substrates (silicon, glass, metal, plastic,...)
– Compatible with any sample size up to 5" square masks
– Camera feedback for alignment steps

Key benefits

– Time and money saving due to the absence of a hard-mask
– Intuitive alignment method with direct overlay of the design on the sample
– Table-top with small foot print
– Technology well suited for microfluidics, 2D-materials, optoelectronics, or any other 2D microfabrication application

30 µm

100 µm

150 µm

100 µm

SMART PRINT UV

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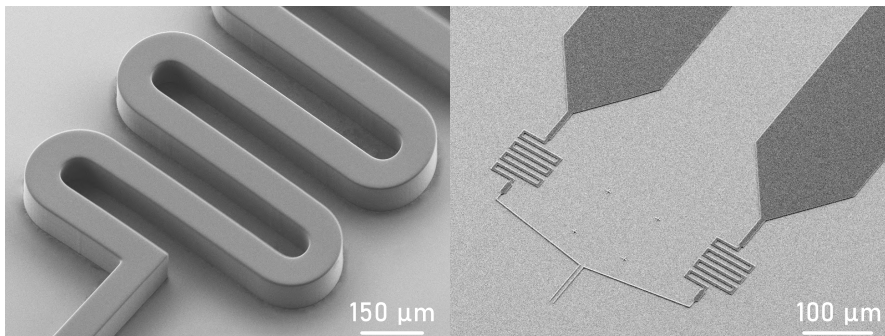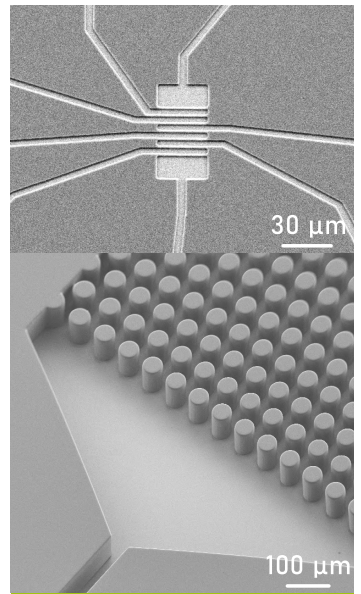
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Specifications

Microfabrication system

Microfabrication system	Standard	Advanced
Light source	Exposure: 385 nm; alignment: 590 nm	
Minimum feature size	1.5 µm	
Alignment accuracy (for 1cm² printed area)	2 µm	1 µm
Maximum exposure area	70 x 70 mm²	110 x 110 mm²
Substrate size	Up to 4"	Up to 5"x5"
Writing speed	77 mm²/min	220 mm²/min
System dimensions	W: (52 cm); D: (52 cm); H: (69 cm)	

Software package

Computer	With Windows 10 Pro, 24" full HD screen
Phaos software	Machine control, step-and-repeat, automatic dose test, stitching, alignment Conversion of standard CAD formats (gdsii, dxf, cif, oas) to machine format. CAD software included

Options and Accessories

> Multiple-sample holder (glass-slide, 4" wafer,...) > Objectives (see below)

Objectives	1 X	2.5X	5X	10X
Writing fields (mm)	10.56 x 5.94	4.2 x 2.4	2.1 x 1.2	1.06 x 0.59
Smallest features (µm)	15	6	3	1.5

Specifications depend on individual process conditions and may vary according to equipment configuration.
Writing speed depends on exposure area and objective. Design and specifications are subject to change without prior notice.