

Nanoimprint Lithography Molds

1 Nickel Mold for Thermal Nanoimprint

Improvement of fabrication process for Optical Disk Mold

- Advanced Lithography : Fine features, Large area, ...
- Optimization of electroforming process

Mold Fabrication Process

(i) Fine Type A :

EB Resist Master

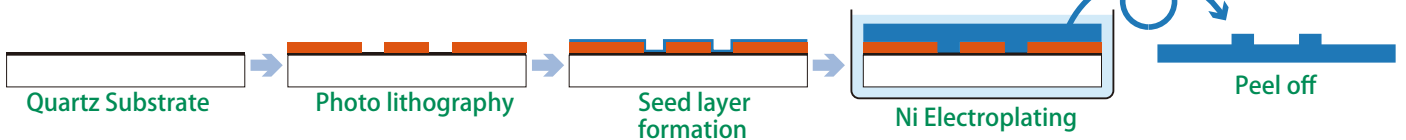


(ii) Fine Type B :

Etched-Si Master



(iii) Large Type



Example of developed structures

Fine Type A

(height : ~300nm)



Fine Type B

(hexagonal dot, width & height : 1 μm)

Large Type

(height : ~1 μm)



30 μm width short Line (400x280mm area)

Line & Space (2 μm / 1 μm)

2 Quartz Mold for UV Nanoimprint

Using equipment and materials for Photomask fabrication

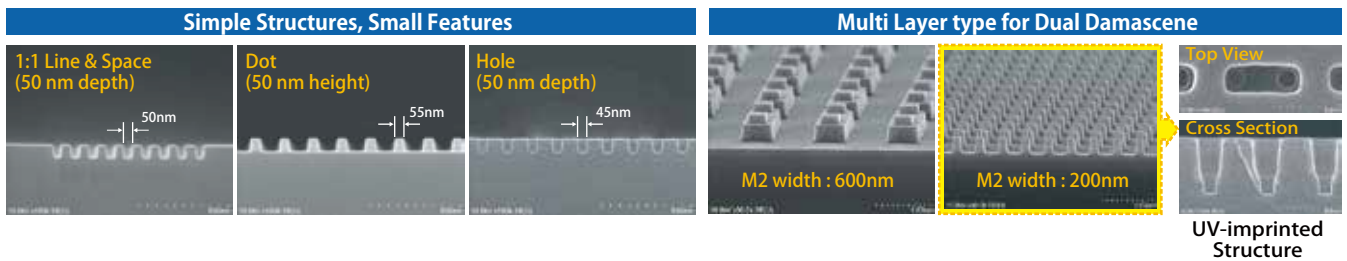
- Max. mold size : 6 inch square

Easy to obtain fine features with good uniformity

Mold Fabrication Process



Example of Quartz structures



3 Silicon Mold for Thermal Nanoimprint

Applying fabrication process of EB Stencil Masks

- Max. mold size : 200 mm diameter

Suitable for high aspect ratio structures

Mold Fabrication Process



Example of Silicon structures

