PRODUCT DESCRIPTION

We use UV contact photolithography to fabricate micro-patterns on 5 inch silicon wafers using SU8 series negative photoresists. We have technical capability for photolithographic microfabrication with other 365 nm sensitive photoresists. Please, contact us for consultation.

We make micropatterns with up to three layers of SU8 of different thickness. The thickness is 0.5 µm to ~1 mm for the first layer. The incremental thicknesses for the 2nd and 3rd are ≤150 µm. Thickness tolerance is normally ±10% for <150 µm thick layers and ±15% for ≥150 µm thick layers. The precision of alignment is ~5 µm for thin (<50 µm) layers of SU8. Please, contact us if you need greater precision.

We can normally make microstructures with features and spacing between features with up to 2:1 aspect ratios for 5 – 100 µm and up to 3:1 for >100 µm thick layers. Please, contact us if you need features with greater aspect ratios.

We make microstructures with draft angles from 3 to 9° for layer thicknesses ≤150 µm. Please, contact us, if you need draft angles >9°.

DESIGN RULES:

1. For optimal results, features should be at least 2 mm away from boundaries of the exposed area (84x84 mm for 4 inch masks and 89x89 mm for 5 inch masks).

   *Note:* If you design your mask in AutoCAD, please, make sure all polylines are closed to avoid conversion errors.

2. For multilayer lithography, please, use our custom designed alignment patterns, which are available for download in DXF and EPS formats.

   *Note:* We recommend at least 4 alignment patterns on 4 sides of the photomasks. The alignment is further facilitated by a 5th alignment pattern near the center. (The samples have 5 patterns.)

3. Please, use vertical and horizontal straight lines for wafer dicing (street lines) stretching across the entire mask and for cutting of PDMS molds into individual chips.

Disclaimer:

All microfabrication is done on a best effort basis.

A and α – thickness and draft angle of 1st layer of SU8;
B and β – thickness and draft angle of 2nd layer of SU8.