

LITHOGRAPHY SERVICES

Contact Printing 1:1

Features:

Wafer or Substrate Diameter	100mm	150mm	200mm	300mm
Minimum Feature Size	2.0µm			5.0µm
I Line Photo Resist: 2.0µm Mircro Chem 3012 Typical Sidewalls with 2.0um I Line	75°			
Mask Specifications: Soda Lime, AR Chrome Mask Plates	5 Inch	7 Inch	9 Inch	14 Inch
Note 1: Mylar Masks/Non-Critical Patterning Minimum Feature Size	5 Inch 20µm	7 Inch 20µm	9 Inch 20µm	14 Inch 20µm
Note 2: Smaller Features Upon Request & Engineering Review	>1.5µm			>3.0µm
Note 3: Thicker Resist Available (I Line, Micro Chem 220-7)	10µm (Maximum Thickness)			
Note 4: SEM Profiles available upon request.				

Standard Process:

- Incoming Inspection of Substrate Condition, insuring the substrate is suitable for project scope & requirements.
- Pre-Bake/HMDS
- Resist Coat, I Line, Typical EBR=1mm (EBR=0 to 5mm Available upon request)
- Soft Bake @125°C
- Align & Expose Mask
- Develop
- Develop Inspection
- Hard Bake (Optional)
- Inspection, Brightlight/Microscope

General Information:

- 1:1 Contact Printing is referred to as 1:1 Patterning. The mask plate is directly transferred into the photosensitive resist-coating. Alignment marks are utilized for precise mask registers prior to exposure. Minimum of two alignment marks are required on each mask.
- Mask is placed in full contact or close proximity (<20µm) with the resist-coated wafer.
- UV light is illuminated over the entire wafer, substrate, transmitting light through the clear areas of the mask, with the opaque areas blocking the light.
- During the development cycle, the photo-resist is washed away, while the areas not exposed to the light remain on the wafers duplicating the circuitry, or pattern, on the mask.
- Non-Critical, Low Cost Patterning is also available utilizing a Mylar Mask for >20µm features.