

MNC Mask Making Design Rules

FY18 Mask Charge Rates (valid until 7-1-18)

Academic rate 5mm write head (see below for details on minimum feature size):	\$249.40
Academic rate: 2mm write head	\$450.13
Non-Academic rate 5mm write head:	\$610.75
Non-Academic rate 2mm write head:	\$1300.00

Mask Sizes, Printed Area Size and Materials

1. 5 inch square plate, 0.090" thick, printed area up to 110mm x 110mm, soda lime print grade photomask blank
2. 4 inch square plate, 0.060" thick, printed area up to 80mm x 80mm, soda lime print grade photomask blank
3. Other photomask size available 6" x 6" x 0.090", 7" x 7" x 0.090", 8" x 8" x 0.090" call or email for pricing and lead times.
4. Quartz available but not in stock call or email for lead time. The additional cost for a 4" x 4" x 0.090" or 5" x 5" x 0.090" is ~\$115/ each.

Design Rules

- Scale in microns, 1:1. One unit on the design is equal to 1um.
- File formats- gdsii, dxf (release 12)
- Do not scale features, cells or text.
- One gds or dxf layer per mask.
- Maximum useable area for a 4"x4" mask is 80mmx80mm with label and 85mmx85mm without label.
- Maximum useable area for 5"x5" mask is 110mmx110mm with label and 112mmx112mm without label.
- Polygons must be closed.
- Do not cross polylines- crossed polylines create ambiguities that lead to data errors.
- Do not create double vertices-double vertices are successive points with identical coordinates. These points can lead to data errors.
- Do not use main as a name layer, cell or any structure.
- Do not use special characters or spaces in names.
- Single lines without width will be ignored.
- Polygons must show no more than 1,000,000 vertices.
- Definition or reference depth can be at maximum 16.
- The number of definition or references can be at maximum 100,000.
- Designs must not exceed the limits of 2000mm from (0,0) in either axis.
- Avoid placing structures in layer 0.

Feature Size Design Rules specific to 5mm write head

- All features (lines, spaces, rectangles, etc.) 1.5um or larger.
- Circles 3.0um or larger
- Text 25um or larger

Feature Size Design Rules specific to 2mm write head

- All features (lines, spaces, rectangles, circles etc. 1.0um or larger.
- Circles 1.5um or larger
- Text 15um or larger