Photolithography

User Guide

Using Microposit POSITIVE Photoresist and Microposit 354 POSITIVE Photoresist Developer

Spin-Coat Photoresist

1. Preheat hotplate to 115℃. **Note**: Minimize wafer contamination by preheating a quartz disk on hotplate.

2. Spin-coat wafer with photoresist using the Solitec High Speed Spin Processor. (See `UserMan-SpinProcessor` manual)

> **2a.** If the photoresist layer is of visibly poor quality (e.g. streaked, spotted, etc) strip the photoresist from the wafer and redo spin-coating procedure. (see `UserMan-PRStrip` manual)
>
> **Typical parameters:**
> `SPIN RATE`: 4kRPM
> `SPIN TIME`: 60 seconds

3. Soft-bake photoresist-covered wafer on hotplate at 115℃ for 60 seconds.

115℃ Hotplate

Solitec High Speed Processor

Expose Photoresist

Align mask to photoresist-covered wafer using the HTG Contact Mask Printer and expose photoresist to UV lamp.

(see `UserMan-MaskAligner` manual)

> **Typical parameters:**
> `EXPOSURE TIME`: 10 seconds

HTB Contact Mask Printer

Develop Photoresist

1. Develop photoresist using the Solitec 1100 Spray Developer.
(see `UserMan-SprayDeveloper` manual)

> **1a.** Check quality of photoresist pattern.
>
> **Note:** If the photoresist pattern is over-developed (e.g. missing pattern components) strip the photoresist (see `UserMan-PRStrip` manual) and begin again with spin coating procedure above.
>
> **Note:** If the photoresist pattern is underdeveloped (e.g. pattern is not fully developed, or appears very hazy) try redoing the developing procedure above.

2. Hard bake wafer for 20 minutes at 90℃ in an oven.
Note: This procedure is not always necessary; however, it will help to ensure photoresist quality for next stage of processing (e.g. etching).

Solitec 1100 Spray Developer

User Guide provided by TJ LaFave
updated February 17, 2004 (lafatim@iit.edu)