Lithography Protocols
(AZ 5214E and SU8 2010)
July 2009
Wafer Cleaning

- Piranha solution ($H_2SO_4:H_2O_2$ mixture in $1:4$) for 5 min
- Rinse/dry: rinse with DI water, acetone, IPA, and DI water, and blow dry with nitrogen
- Buffered Oxide Etch, BOE (10:1 HF, surfactant and buffer) for 2-3 sec (for silicon wafer only)
- Rinse/dry: rinse with DI water, acetone, IPA, and DI water, and blow dry with nitrogen
AZ 5214E – Positive Photoresist

- Headway PWM32 spincoater for spincoating AZ 5214E
  1) Spread Speed: 500 rpm for 5 sec
  2) Spin Speed: 3000 rpm for 30 sec
- Pre-bake: 110 °C for 1 min on a hot plate
- Karl Suss MJB3 mask aligner for aligning and exposing: 10 sec
- Developing: 40 sec in MIF 327 developer
- Rinse/dry: rinse with DI water, and blow dry with nitrogen
SU8 2010 – Negative Photoresist

- Headway PWM32 spincoater for spincoating SU8 2010
  1) Spread Speed: 500 rpm for 5 sec
  2) Spin Speed: 3000 rpm for 30 sec
- Soft bake
  1) Pre-bake: 65 °C for 2 min on a hot plate
  2) Soft bake: 95 °C for 5 min on a hot plate
- Karl Suss MJB3 mask aligner for aligning and exposing: 12 sec
SU8 2010 – Negative Photoresist

- Post-exposure-bake (PEB)
  1) PEB1: 65 °C for 1 min on a hot plate
  2) PEB2: 95 °C for 2 min on a hot plate
- Developing: 3 min in SU8 developer
- Rinse/dry: rinse with IPA, and blow dry with nitrogen