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SUSS MicroTec MA6 Gen3 - S1813 Contrast Curve Data

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Materials:

- MicroChem S1813 Photoresist
- DisChem SURPASS 4000 Primer (http://www.discheminc.com/)
- MicroChem MF-319 Developer
- Acetone
- Isopropyl Alcohol (IPA)
- 4 inch Silicon Wafers
- Benchmark Technologies multi-transmission photomask

Equipment:

- Torrey Pines Scientific hotplate
- Reynoldstech 1000 RPM/second spinner
- SUSS MicroTec MA6 Gen3 Mask Aligner
- Filmetrics F40 film thickness measurement tool

Protocol:

Prime and Coat

1. Mounted wafer and ensured that it was centered
2. Deposited ~7 milliliters of SurPass 4000 in the center of the wafer
3. Spun on primer at 3000 RPM for 30 seconds
4. Rinsed with IPA
5. Deposited ~14 milliliters of S1813 photoresist in the center of the wafer
6. Spun on photoresist at 4500 RPM for 60 Seconds

Soft Bake

1. Baked wafer at 100° C for 60 seconds

Expose and Develop

1. Exposed at 35 mJ/cm^2 using SUSS MA6 mask aligner with 30 micron proximity gap and multi-transmission photomask
2. Developed in Microposit MF-319 for 60s while agitating

Thickness Measurement

1. Measured remaining resist at different exposure doses using Filmetrics F40

Dose (mJ/cm^2)	Thickness Measured (microns)
35	0.000
24.5	0.320
22.75	0.498
21	0.626
19.25	0.722
17.5	0.846
15.75	0.992
14	1.215
12.25	1.271
10.5	1.3