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| Objective |
| Batch name: Process template |
| This process flow is a guideline on how to spin coat, expose, and develop AZ 5214E on 4” substrates such as Si, SiO2 and Borofloat, using automatic spin coater, maskless aligner, and automatic developer, in case of image reversal. |

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| Step Heading | Equipment |  | Comments |
| 1. Pretreatment | | |  |
| * 1. Surface treatment | BHF dip  *or*  Oven: HMDS – 2 | BHF dip for Si substrates (30 sec, H2O 5 min)  HMDS treatment for Si, SiO2, and Borofloat  **Recipe:** 01 | For Si, choose BHF or HMDS.  HMDS priming can also be performed on Gamma spin coaters. |
| 1. Spin coat of AZ 5214E | | |  |
| * 1. Coat wafers | Spin Coater: Gamma UV  or  Spin Coater: Gamma e-beam & UV | **Resist:** AZ 5214E (line 3 or CO2 line 1)  **Spin:** 30 s @ 2200 rpm (for 2.2µm)  **Softbake:** 60 s @ 90 °C  **Sequence:**  (3420) DCH 100mm AZ5214E 2.2um or  (4120) DCH 100mm AZ5214E 2.2um | Use (3421) or (4121) for in-line HMDS priming.  Resist thickness can be measured on FilmTek |
| 1. Image exposure | | |  |
| * 1. Expose | Aligner: Maskless 03 | **Design:** your design file  **Exposure dose:**  43 mJ/cm2 for MLA3  **Defocus:**  0 for MLA3 | Information on exposure dose for other thickness, aligner, or developer: http://labadviser.danchip.dtu.dk/index.php/Specific\_Process\_Knowledge/Lithography/UVExposure\_Dose |
| 1. Reversal bake | | |  |
| * 1. Bake | Developer: TMAH UV-lithography | **Reversal bake:** 120 s @ 110 °C  **Sequence:**  (2002) DCH PEB 110C 120s |  |
| 1. Flood exposure | | |  |
| * 1. Expose | KS Aligner  or  Aligner: MA6 – 2 | **Mask:** none  **Exposure mode:** Flood exposure  **Exposure dose:**  200 mJ/cm2  **Exposure time:**  25 s @ 8 mW/cm2 for KS  18 s @ 11 mW/cm2 for MA6 – 2 |  |
| 1. Development | | |  |
| * 1. Develop | Developer: TMAH UV-lithography | **Development in TMAH (AZ 726 MIF):**  single puddle, 60 s  **Sequence:**  (1002) DCH 100mm SP 60s |  |
| 1. Inspection | | |  |
| * 1. Inspection | Optical microscope | Inspect pattern / alignment mark / process monitor |  |