EMERGING COMMUNICATIONS
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SU8-2100 negative resist

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Summary:
This document describes spin and patterning using SU8-2100 negative resist.

Table of content

1 Associated Documents & References

Sample cleaning
MSDS of chemicals involved.
Laurell spin coater standard operating procedure
Mask aligner standard operating procedure
Despatch Programmable oven procedure
Rules and procedures of cleanroom

2 Equipment Used

Laurell spin coater
WetBench
Hotplate

Suss MA6 mask aligner
Programmable oven
metal tweezers
flat glass petri dish

3 Verifications Prior to Processing

Spinner clean. Photoresist is not old.

4 Recipe description

Put silicon wafer on hotplate 150C for 10 minutes.
Allow to cool (do not place on plastic surface)
Center sample on spinner.
P-20 (20% HMDS) over whole wafer.
Sit for 10 seconds.

Spinner at 2000 RPM, accel index = 1 for 10 sec
Carefully pour SU8-2100 from bottle onto wafer.
Spin at an accel index that gives 300 RPM up to a final speed of 5000 rpm for 30 sec.

Setup Despatch oven for 2 C per minute ramp, 65 C for 5 minutes, 95C for 60 minutes.
Load sample into oven.
Do not use plastic dish (will melt) and check there is no SU8 resist on bottom of sample (will cause sample to stick to dish permanently).
When oven stops, open door slightly to allow the temperature to cool down for 15 minute.

On the Suss MA6 mount sample and acetate mask
expose for 35 second using “flood”

Do a Despatch oven bake of 95C for 45 minutes
When oven stops, open door slightly to allow the temperature to cool down for 15 minute.

Develop in SU8-developer for 6 minutes. Periodically agitate to removed the unexposed SU8.
Rinse with IPA only (do not use DI water).
Blow dry with nitrogen gun.

5 Technical Data

Cleanroom at 22 ± 1 C, 45 ± 5 %RH
Suss MA6: 16 mW/cm2 at 365 nm, 32 mW/cm2 at 405 nm

6 Measurements & Statistical Process Control

7 Record of Revisions

Rev. 0	First Edition