EMERGING COMMUNICATIONS
TECHNOLOGY INSTITUTE
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Shipley 1818 Positive resist

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Summary:
This document describes the coating of a silicon wafer with Shipley S1818 positive resist.

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1 Associated Documents & References

Silicon wafer cleaning
Chemicals used: photoresist, acetone, developer

MSDS if chemicals or gas involved.
Laurell spin coater standard operating procedure
mask aligner standard operating procedure
Rules and procedures of cleanroom

2 Equipment Used

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Laurell spin coater
WetBench
Hotplate
Suss MA6 mask aligner
metal tweezers
flat glass petri dish

This equipment has to be reserved through the online resource scheduler. If you need to be assisted by technician check availability with them before reserving the equipment. Users have to go through regular training before using this equipment alone.

3 Verifications Prior to Processing

Vacuum pump for spinner is turned on.
Laurell spin coater is clean.
Photoresist is not old.

4 Recipe description

Center sample on spinner.
P-20 (20% HMDS) over whole wafer.
Sit for 10 seconds.
Spinner at 4000 RPM for 40 sec
Use plastic disposable pipette, dispense S1818 in middle of wafer.
Spin at 4000 rpm for 40 sec and acceleration index =6.
Soft bake on hotplate 95 C for 1 minute.
On the Suss MA6 mount glass mask
Expose for 5 second using "soft contact"
Develop in MF321 developer for 1 minute. Periodically agitate to removed the UV exposed photoresits.
Rinse with DI water.
Blow dry with nitrogen gun
Optional : Hard bake on hotplate 115 C for 1 minute to improve wet or dry etching selectivity.

Smallest line width achievable with this photoresist, the mercury exposure lamp nd the anti-vibration table is 1 micron.

5 Technical Data

Cleanroom at 22 $\pm$ 1 C, 45 $\pm$ 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

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