Thickness of Photoresists

Positive Photoresists

S1805 AZ 5214

400 nm 1 µm 2 µm 5 µm 10 µm 30 µm 70 µm 100 µm

SU8 2002 SU8 2005 SU8 2010 SU8 2050 SU8 2050
Single Layer Single Layer Double Layers

SU8 2010 Double Layers

Negative Photoresists

Available photoresists in NRF
Available protocols in NRF
SU8 2050 – Single Layer

Procedure:

1) Spin-coat SU8 2050 500 rpm for 10 sec (ramp: 100 rpm/sec) and then 3000 rpm for 60 sec (ramp: 500 rpm/sec)
2) Soft-bake the sample at 65 °C for 3 min and then 95 °C for 9 min
3) Expose the sample to UV light (365 nm, 12 mW/cm²) for 16 sec
4) Post-bake the sample at 65 °C for 2 min and then 95 °C for 7 min
5) Develop the sample with SU8 developer for 5 min
6) Rinse the sample with IPA, and blow dry with nitrogen
7) Hard-bake the sample at 180 °C for 20 min (optional)
Spin Curve: Single-Layer SU8 2050

Spin Speed (rpm)

Thickness (µm)

1000 1500 2000 2500 3000

2000 rpm, 60 sec
Thickness: 72 µm
SU8 2050 – Double Layer

Procedure:

1) Spin-coat SU8 2050 500 rpm for 10 sec (ramp: 100 rpm/sec) and then 3000 rpm for 60 sec (ramp: 500 rpm/sec)
2) Soft-bake the sample at 65 °C for 2 min and then 95 °C for 6 min
3) Spin-coat SU8 2050 500 rpm for 10 sec (ramp: 100 rpm/sec) and then 3000 rpm for 60 sec (ramp: 500 rpm/sec)
4) Soft-bake the sample at 65 °C for 3 min and then 95 °C for 8 min
5) Expose the sample to UV light (365 nm, 12 mW/cm²) for 16 sec
6) Post-bake the sample at 65 °C for 2 min and then 95 °C for 7 min
7) Develop the sample with SU8 developer for 5 min
8) Rinse the sample with IPA, and blow dry with nitrogen
9) Hard-bake the sample at 180 °C for 20 min (optional)

Thickness: 82 µm
SU8 2010 – Single Layer

Procedure:

1) Spin-coat SU8 2050 500 rpm for 10 sec (ramp: 100 rpm/sec) and then 3000 rpm for 60 sec (ramp: 500 rpm/sec)
2) Soft-bake the sample at 65 °C for 2 min and then 95 °C for 5 min
3) Expose the sample to UV light (365 nm, 12 mW/cm²) for 10 sec
4) Post-bake the sample at 65 °C for 1 min and then 95 °C for 2 min
5) Develop the sample with SU8 developer for 4 min
6) Rinse the sample with IPA, and blow dry with nitrogen
7) Hard-bake the sample at 180 °C for 20 min (optional)  

Thickness: 10 µm
SU8 2010 – double layer

Procedure:

1) Spin-coat SU8 2050 500 rpm for 10 sec (ramp: 100 rpm/sec) and then 3000 rpm for 60 sec (ramp: 500 rpm/sec)
2) Soft-bake the sample at 65 °C for 2 min and then 95 °C for 5 min
3) Spin-coat SU8 2050 500 rpm for 10 sec (ramp: 100 rpm/sec) and then 3000 rpm for 60 sec (ramp: 500 rpm/sec)
4) Soft-bake the sample at 65 °C for 2 min and then 95 °C for 4 min
5) Expose the sample to UV light (365 nm, 12 mW/cm²) for 16 sec
6) Post-bake the sample at 65 °C for 1 min and then 95 °C for 5 min
7) Develop the sample with SU8 developer for 5 min
8) Rinse the sample with IPA, and blow dry with nitrogen
9) Hard-bake the sample at 180 °C for 20 min (optional)

Thickness: 14 µm
AZ 5214E

Procedure:

1) Spin-coat AZ5214E 500 rpm for 10 sec (ramp: 100 rpm/sec) and then 3000 rpm for 30 sec (ramp: 500 rpm/sec)
2) Soft-bake the sample at 110 °C for 1 min
3) Expose the sample to UV light (365 nm, 12 mW/cm²) for 8.5 sec
4) Develop the sample with MIF 327 developer for 40 sec
5) Rinse the sample with DI water, and blow dry with nitrogen

Thickness: 1.8 µm
Procedure:

1) Spin-coat S1805 6000 rpm for 30 sec (ramp: 300 rpm/sec)
2) Soft-bake the sample at 115 °C for 1 min
3) Expose the sample to UV light (365 nm, 12 mW/cm²) for 6 sec
4) Develop the sample with MF 319 developer for 8 sec
5) Rinse the sample with DI water, and blow dry with nitrogen

Thickness: 450 nm