Shipley 1813 Ash Rates

Grayson West
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- **Process 1 (2 wafers)**
  - Prebake 2' @ 115C
  - HMDS vapor 3'
  - Spin 1813 30" @ 3000 rpm
  - Softbake 60" @ **105C**
  - Expose on soft contact **4"** with deep trench mask
  - Develop 351:Water (1:5) 30"
- **Etch**
  - O2 Asher Vertically for **5'**. **O2:** 200 **R/F Power:** 200
  - STS Asher, O2 clean for **5'**.

		Resist Thickness		After Etch		Amount Etched		Etch Rate	
		Tencor	Nanospec	Tencor	Nanospec	Tencor	Nanospec	Tencor	Nanospec
Wafer 1	Top	14900	14423	14300	13979	600	444	120	89
O2 Asher	Center	14700	14370	14100	13987	600	383	120	77
	Flat	14500	14422	14100	13966	400	456	80	91
	Avg	**14700**	**14405**	**14167**	**13977**	**533**	**428**	**107**	**86**
Wafer 2	Top	14100	14026	6250	6223	7850	7803	1570	1561
STS Etch	Center	14100	14010	6250	6201	7850	7809	1570	1562
	Flat	14100	14018	6250	6183	7850	7835	1570	1567
	Avg	**14100**	**14018**	**6250**	**6202**	**7850**	**7816**	**1570**	**1563**

- **Process 2 (2 wafers)**
  - Prebake 2' @ 115C
  - HMDS vapor 3'
  - Spin 1813 30" @ 3000 rpm
  - Softbake 60" @ **105C**
  - Expose on soft contact **4"** with deep trench mask
  - Develop 351:Water (1:5) 30"
  - Hard Bake 60" @ **120C**
- **Etch**
  - O2 Asher Vertically for **5'**. **O2:** 200 **R/F Power:** 200
  - STS Asher, O2 clean for **5'**.

		Resist Thickness		After Etch		Amount Etched		Etch Rate	
		Tencor	Nanospec	Tencor	Nanospec	Tencor	Nanospec	Tencor	Nanospec
Wafer 1	Top	14000	13952	13300	13150	700	802	140	160
O2 Asher	Center	13950	13793	13500	13039	450	754	90	151
	Flat	13900	13948	13100	13082	800	866	160	173
	Avg	**13950**	**13898**	**13300**	**13090**	**650**	**807**	**130**	**161**
Wafer 2	Top	14100	13880	6450	6192	7650	7688	1530	1538
STS Etch	Center	14000	13868	6300	6208	7700	7660	1540	1532
	Flat	14000	13917	6300	6261	7700	7656	1540	1531
	Avg	**14033**	**13888**	**6350**	**6220**	**7683**	**7668**	**1537**	**1534**

- **Process 3 (2 wafers)**
  - Prebake 2’ @ 115C
  - HMDS vapor 3’
  - Spin 1813 30” @ 3000 rpm
  - Softbake 60” @ **115C**
  - Expose on soft contact **4”** with deep trench mask
  - Post Exposure Bake 60” @ **115C**
  - Develop 351:Water (1:5) 30”
- **Etch**
  - O2 Asher Vertically for **5’**. **O2:** 200 **R/F Power:** 200
  - STS Asher, O2 clean for **5’**.

		Resist Thickness		**After Etch**		**Amount Etched**		**Etch Rate**	
		Tencor	Nanospec	Tencor	Nanospec	Tencor	Nanospec	Tencor	Nanospec
Wafer 1	Top	13700	13558	13000	12723	700	835	140	167
O2 Asher	Center	13700	13507	13000	12638	700	869	140	174
	Flat	13750	13538	12900	12553	850	985	170	197
	Avg	**13717**	**13534**	**12967**	**12638**	**750**	**896**	**150**	**179**
Wafer 2	Top	13950	13709	6300	6205	7650	7504	1530	1501
STS Etch	Center	13850	13723	6250	6211	7600	7512	1520	1502
	Flat	13900	13842	6200	6216	7700	7626	1540	1525
	Avg	**13900**	**13758**	**6250**	**6211**	**7650**	**7547**	**1530**	**1509**