PROCESS SOLUTIONS, EQUIPMENT AND SERVICES

TA Series

(58TA and 310TA)

HMDS Vacuum Cure/ Vapor Prime Systems

YES TA Series vacuum cure/vapor prime systems provide fast, uniform, cost-effective priming with hexamethyldisilizane (HMDS) to improve the adhesion of photoresist. These versatile systems also support image reversal, forming negative images with the same resolution and ease as positive resist.

Effective photoresist adhesion forms the basis for all subsequent process steps, and only a totally primed surface will accurately reproduce submicron CDs without undercutting or ragged edges. The TA systems' vacuum cure dehydrates substrates thoroughly, enabling a superior bond with the HMDS layer that remains stable even after weeks of exposure to atmospheric moisture.

Vacuum Cure/Vapor Prime vs Wet Prime:

- Uniformity of chemical deposition
- Contact angle within ±3 degrees
- Moisture-resistant surface modification
- Increased time available between process steps
- Enhanced photoresist adhesion
- Lower chemical consumption and chemical cost than wet prime

In addition to silicon wafer processing, the TA Series can also be used for low-temperature HMDS priming of gallium arsenide, lithium niobite, and other exotic materials.

TA Series Advantages:

- N_2 preheat prevents chamber cooling.
- Filtration mechanisms reduce particulate introduction.
- Surge suppression systems limit turbulence during cassette loading.
- Advanced control systems offer user-selectable temperature, process time and chamber size.
- Four vacuum cycles purge O_2 for safety prior to HMDS introduction.

Contact Us: We offer process demonstrations. If you would like to submit samples, please call us. We can run your samples and provide a detailed process report.

Yield Engineering Systems, Inc.

Call: **1-510-954-6889** (worldwide) or **1-888-YES-3637** (US toll free)

www.yieldengineering.com

58TA AND 310TA SPECIFICATIONS

Dual Function Systems for HMDS Application as well as Image Reversal

58TA SPECIFICATIONS	
HARDWARE	
Clean Room Compatibility	Class 10
Wafer Size	Up to 300mm
Capacity	12 cassettes 100mm wafers — 8 cassettes 125mm or 150mm wafers — 2 cassettes 200mm wafers — 1 cassettes 300mm wafers *The Image Reversal process generally reduces the cassette capacity by ½.*
Batch Throughput	2 load/hr vacuum bake/vapor prime — 1 load/hr image reversal
Operation Temperature	Ambient to 180 ˚C
Interior Chamber Dimensions	40.64 CM (W) X 45.72 CM (D) X 40.64 CM (H) — (16" x 18" x 16")
Overall System Dimensions	73.5 cm (W) x 62.56 cm (D) x 88.27 cm (H) — (28.94" x 24.63" x 34.75")
Chamber Material	316L stainless steel, aluminum door plate
Process Gas Inputs	1 N2 vent gas, 1 ammonia, 1 vapor flask
Cleanliness	<5 x 1 micron particles per 150 mm wafer
Nitrogen Consumption	16 SCF per process
SOFTWARE	
Number of Recipes	8 process recipes
Range of Exposure Time	0-999999 seconds
Resolution of Timer Setting	1 second
PERFORMANCE	
Temperature Uniformity	±5˚C after stabilization period
ADDITIONAL	
Power Requirements	188-253VAC, 50/60Hz, 10 amps

310TA SPECIFICATIONS	
HARDWARE	
Clean Room Compatibility	Class 10
Wafer Size	Up to 200mm
Capacity	8 cassettes 100mm wafers — 2 cassettes 125mm wafers — 2 cassettes 150mm wafers — 1 cassettes 200mm wafers *The Image Reversal process generally reduces the cassette capacity by ½.*
Batch Throughput	2 load/hr vacuum bake/vapor prime — 1 load/hr image reversal
Operation Temperature	Ambient to 160 ˚C
Interior Chamber Dimensions	30.48 cm (W) x 33.66 cm (D) x 30.48 cm (H) — (12" x 13.25" x 12")
Overall System Dimensions	63.195 cm (W) x 50.17 cm (D) x 77.29 cm (H) — (24.88" x 19.75" x 30.43")
Chamber Material	316L stainless steel, aluminum door plate
Process Gas Inputs	1 N2 vent gas, 1 ammonia, 1 vapor flask
Cleanliness	<5 x 1 micron particles per 150 mm wafer
Nitrogen Consumption	7 SCF per process
SOFTWARE	
Number of Recipes	8 process recipes
Range of Exposure Time	0-999999 seconds
Resolution of Timer Setting	1 second
PERFORMANCE	
Temperature Uniformity	±5˚C after stabilization period
ADDITIONAL	
Power Requirements	188-253VAC, 50/60Hz, 10 amps

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