

UV™ 1100 POSITIVE DUV PHOTORESIST

For Microlithography Applications

DESCRIPTION

UV1100 is a high-temperature positive DUV resist. UV1100 features excellent resolution and wide process windows for metal and trench applications. UV1100 works well on organic anti-reflectant for hard mask processes and is especially suited for metal trench applications.

ADVANTAGES

- Low through-pitch bias
- Excellent etch resistance
- Minimal SB/PEB sensitivity
- Good process windows
- Good resolution

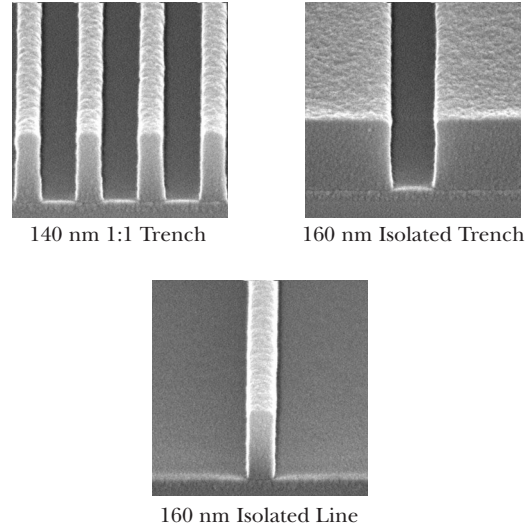
Recommended Process Conditions	
ARL	600Å AR3 (205°C/60 sec.)
Film Thickness	3,550Å
Softbake	130°C/60 sec.
Post-exposure Bake	115°C/60 sec.
Develop	MF™ CD-26 (0.26N), 45 sec. Single Puddle

SUBSTRATE

UV1100 is compatible with a wide range of substrates, including silicon and both organic and inorganic anti-reflective materials. A hexamethyldisilazane (HMDS)-based Microposit™ primer is recommended to promote adhesion with substrates that require such treatment.

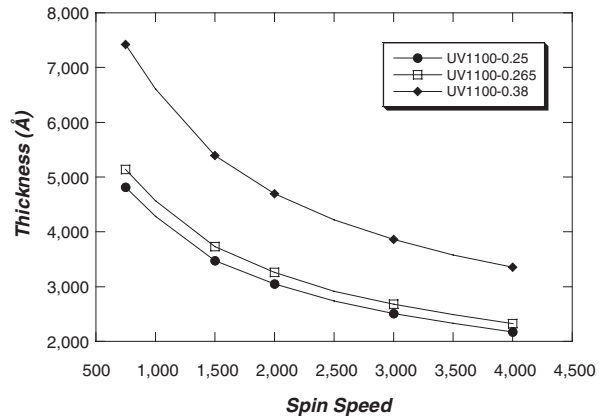
LITHOGRAPHIC PERFORMANCE

Figure 1. Resolution



COAT

Figure 2. Spin Speed Curves



Cauchy Coefficients

n_1	1.548
n_2	5.73E+05
n_3	5.23E+12

Optical Constants

$n @ 248 \text{ nm}$	1.778
$k @ 248 \text{ nm}$	0.013

UVI 100 POSITIVE DUV PHOTORESIST

Figure 3. Swing Curve on Silicon

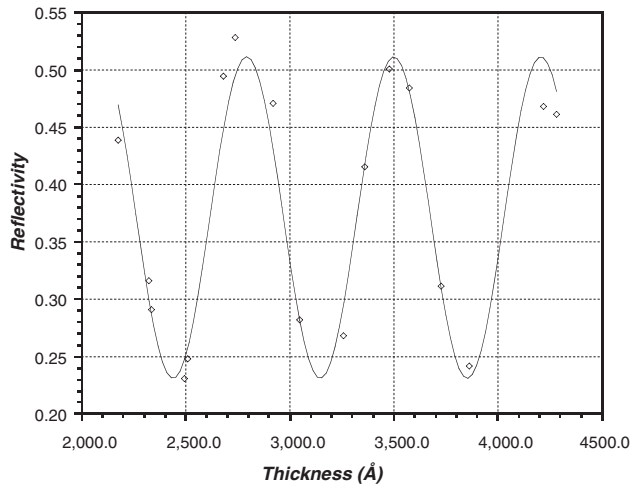


Figure 4. Focus Latitude; 140 nm 1:1 Trench, 160 nm Isolated Trench, 160 nm Isolated Line

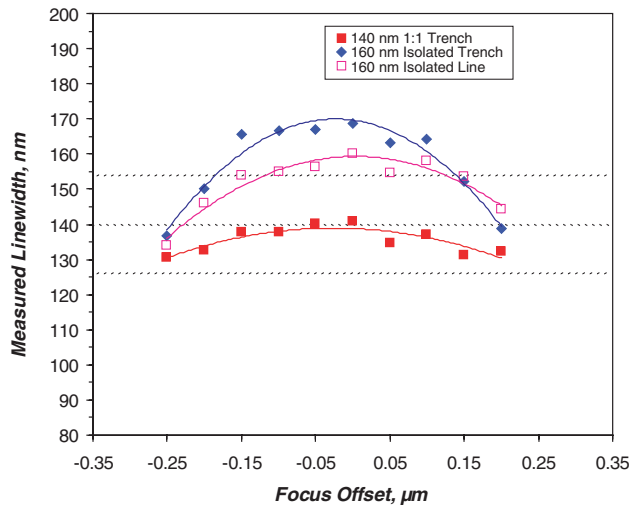
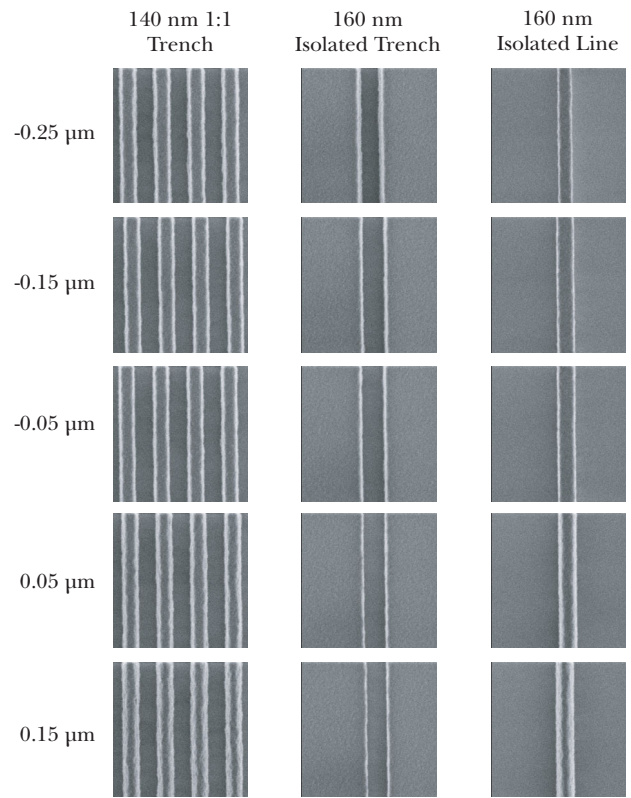


Figure 5. Focus Latitude



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HANDLING PRECAUTIONS

Before using this product, consult the Material Safety Data Sheet (MSDS)/Safety Data Sheet (SDS) for details on product hazards, recommended handling precautions and product storage.

CAUTION! Keep combustible and/or flammable products and their vapors away from heat, sparks, flames and other sources of ignition including static discharge. Processing or operating at temperatures near or above product flashpoint may pose a fire hazard. Use appropriate grounding and bonding techniques to manage static discharge hazards.

CAUTION! Failure to maintain proper volume level when using immersion heaters can expose tank and solution to excessive heat resulting in a possible combustion hazard, particularly when plastic tanks are used.

STORAGE

Store products in tightly closed original containers at temperatures recommended on the product label.

DISPOSAL CONSIDERATIONS

Dispose in accordance with all local, state (provincial) and federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner.

It is the user's responsibility to verify that treatment and disposal procedures comply with local, state (provincial) and federal regulations. Contact your Rohm and Haas Electronic Materials Technical Representative for more information.



ELECTRONIC MATERIALS



Circuit Board Technologies



CMP Technologies



Microelectronic Technologies



Packaging and Finishing Technologies

For locations and information please visit <http://electronicmaterials.rohmhaas.com>

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