



# Megaposit™ MF™-20A Developers

## Improved Process Latitude for Both Conventional and Advanced Resists

### Description

MEGAPOSIT MF-20A series Developers are surfactant containing developers, designed to provide improved process latitude for both conventional and advanced resists over a wide range of developer normalities.

### Features Include

- Low-foaming formulation
- Developer normalities include: 0.21, 0.24, 0.26 and 0.27N
- Improved contrast for optimal lithographic performance
- Uniform resist development with minimal bubble and residue related defects
- Effective across various resist technologies (g-, g/h-, i-Line and DUV)

### Lot-to-lot Consistency

- Tightly controlled product specifications
- Total systems functional testing
- Statistical process control

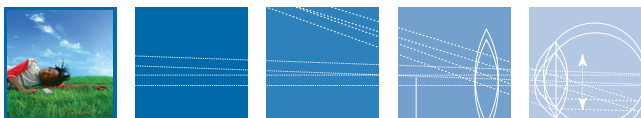
### Manufacturing Process Control

#### Multiple Step In-process Testing

First In-process Test	TMAH Normality
	Carbonate
Second In-process Test	TMAH Normality
	Carbonate
	Surface Tension
Packaging Approval*	TMAH Normality
	Carbonate
	Particles
C of A**	Metals
	Chloride
	Color/Turbidity
	TMAH Normality

\*Normality controlled  $\pm 0.0002N$

\*\*Control to  $\pm 0.0018$  TMAH



the science of materials  
the power of **collaboration**

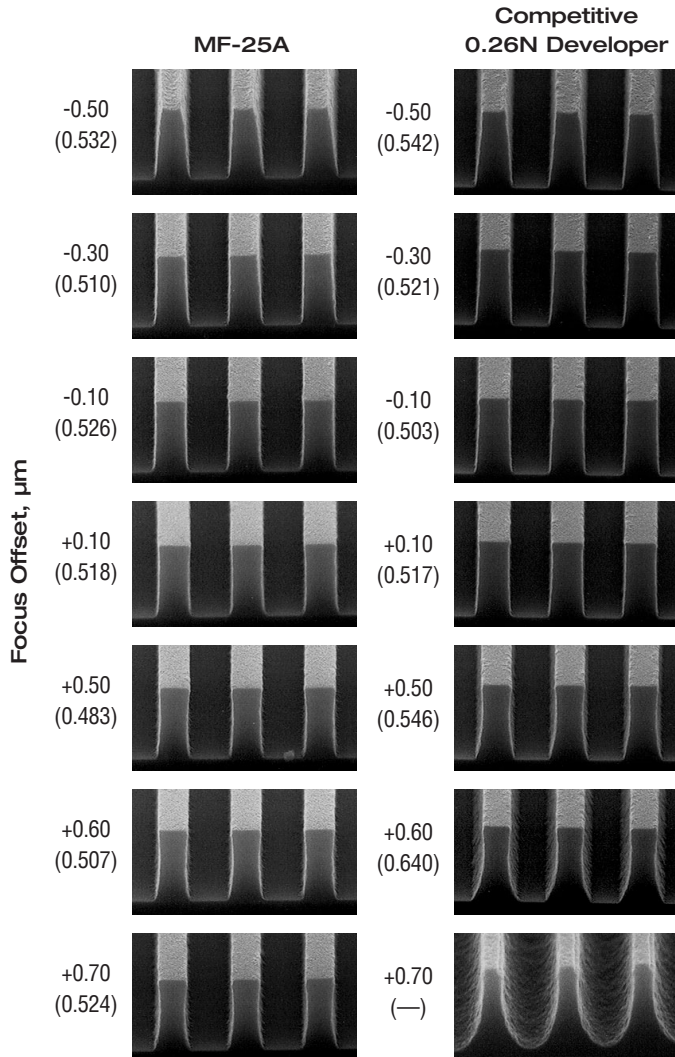
# Wide Process Latitude/High Throughput

## MEGAPOSIT SPR™350-1.2

Nominal 0.500  $\mu\text{m}$

Dense Lines/Spaces

Focus Latitude



79 mJ/cm<sup>2</sup>

85 mJ/cm<sup>2</sup>

Photospeed,  $E_0$  49 mJ/cm<sup>2</sup>  
 Sizing Energy,  $E_s$  79 mJ/cm<sup>2</sup>  
 $E_s/E_0$  Ratio 1.6  
 Linearity @  $E_s$  0.400  $\mu\text{m}$   
 Resolution @  $E_s$  0.375  $\mu\text{m}$   
 Exposure Latitude ~28%  
 Focus Latitude @  $E_s$  1.3  $\mu\text{m}$

56 mJ/cm<sup>2</sup>  
 85 mJ/cm<sup>2</sup>  
 1.5  
 0.450  $\mu\text{m}$   
 0.400  $\mu\text{m}$   
 ~22%  
 1.0  $\mu\text{m}$

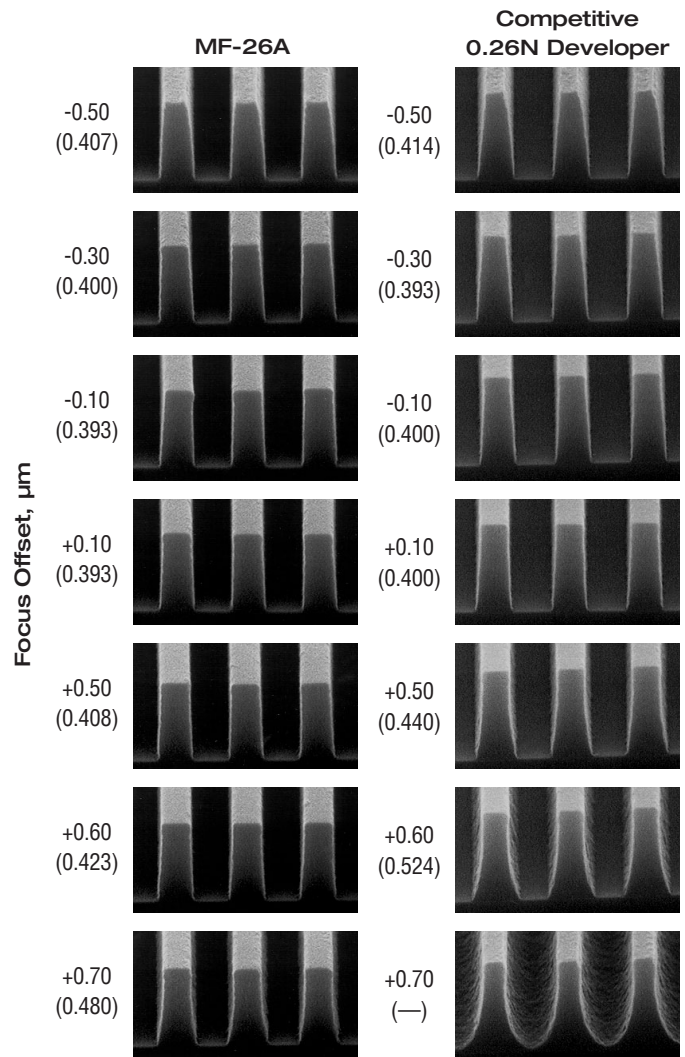
SUB = 100 mm Silicon  
 FT = 10,750Å,  $\pm 25\text{\AA}$   
 SB = 90°C/60 sec. Contact Hotplate  
 EXP = ASM PAS5500/200 i-Line (0.57 NA, 0.60 $\sigma$ )  
 PEB = 110°C/60 sec. Contact Hotplate  
 DEV = As Indicated/40 sec. SSP @ 21°C

## MEGAPOSIT SPR 850-1.0

Nominal 0.400  $\mu\text{m}$

Dense Lines/Spaces

Focus Latitude



133 mJ/cm<sup>2</sup>

151 mJ/cm<sup>2</sup>

Photospeed,  $E_0$  72 mJ/cm<sup>2</sup>  
 Sizing Energy,  $E_s$  133 mJ/cm<sup>2</sup>  
 $E_s/E_0$  Ratio 1.83  
 Linearity @  $E_s$  0.350  $\mu\text{m}$   
 Resolution @  $E_s$  0.325  $\mu\text{m}$   
 Exposure Latitude  $\geq 18.30\%$   
 Focus Latitude @  $E_s$  1.3  $\mu\text{m}$

82 mJ/cm<sup>2</sup>  
 151 mJ/cm<sup>2</sup>  
 1.80  
 0.375  $\mu\text{m}$   
 0.350  $\mu\text{m}$   
 $\geq 16.23\%$   
 1.0  $\mu\text{m}$

SUB = 100 mm Silicon  
 FT = 9,690Å,  $\pm 20\text{\AA}$   
 SB = 90°C/60 sec. Contact Hotplate  
 EXP = ASM PAS5500/200 i-Line (0.57 NA, 0.60 $\sigma$ )  
 PEB = 110°C/60 sec. Contact Hotplate  
 DEV = As Indicated/30 sec. SSP

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