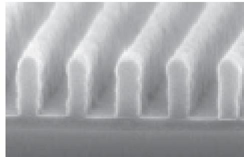
ShinEtsuMicroSi

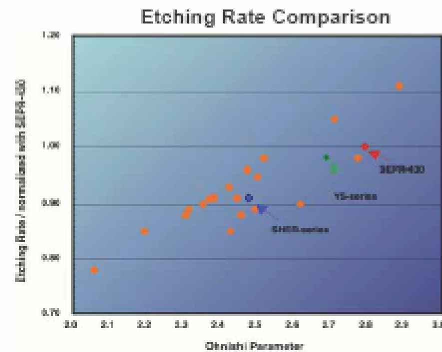
KrF Photoresist Beyond 100nm Process

ShinEtsu KrF Photoresist SHER-series for Line & Space Process

95nm L/S



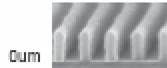
Best Focus
at 1st Min. Reflectivity

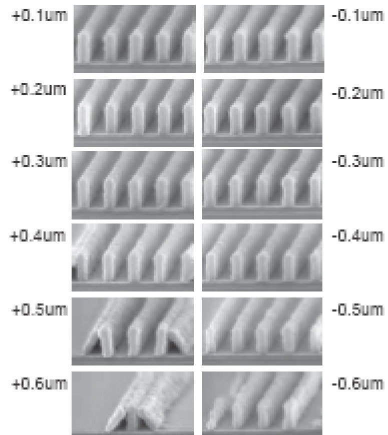


Substrate : DUV-42 (61nm)
PR Thickness : 265nm
Softbake : 115°C x 90sec.
Exposure : Canon FPA-6000ES5 (NA=0.60,4/5 Annular)
Mask : 6%HT-PSM
PEB : 110°C x 90sec.
Development : 2.38% TMAH,60sec.Puddle

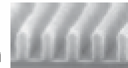
Depth of Focus for 100-90nm Densed Lines

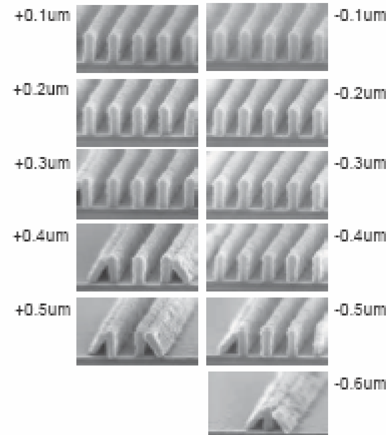
100nm/pitch200nm
Eop=50mJ/cm²



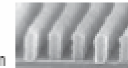


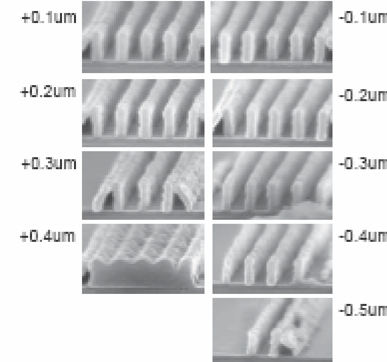
95nm/pitch190nm
Eop=53mJ/cm²





90nm/pitch180nm
Eop=58mJ/cm²



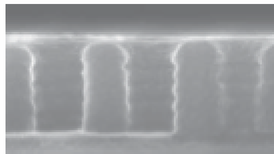


KrF Photoresist Beyond 100nm Process

ShinEtsuMicroSi

ShinEtsu KrF Photoresist *AT-series* for Contact Hole Process

160nm C/H on DUV-44 (80nm)



Best Focus (Duty 1:1)

(Duty 1:5)

Substrate	: DUV-44 (80nm)
PR Thickness	: 420nm
Softbake	: 105°C x 90sec.
Exposure	: Nikon NSR-S203B (NA=0.68, Sigma=0.60, Conventional)
Mask	: 6%HT-PSM (Mask bias: +30nm)
PEB	: 110°C x 90sec.
Development	: 2.38% TMAH,60sec.Puddle

Depth of Focus for 160nm Contact Hole