

# **Novel EUV resist development for sub-14 nm half pitch**

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## **ABSTRACT**

Extreme ultraviolet (EUV) lithography is a promising candidate for the manufacturing of semiconductor devices at the sub-14nm half pitch lines and spaces (LS) pattern for 7nm node and beyond. For the high volume manufacturing of semiconductor devices, significant improvement of resolution and sensitivity is required for EUV resist. The key challenge for EUV resist is simultaneous achievement of low line edge roughness (LER), high sensitivity, and ultrahigh resolution for lines and spaces features. We have already reported that better LER and Z-factor were obtained with higher Tg polymer, thus in shorter acid diffusion length system. In this paper, we will report the recent progress of resolution and sensitivity improvement of JSR novel EUV resist.