EXTREME ULTRAVIOLET LITHOGRAPHY

1. Title:	The repair performance comparison for EUV mask
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3. Abstract body:

Defect-free mask is one of the critical issues for enabling EUV lithography below the half pitch 32 nm. At the same time, a defect-free process cannot be expected. Therefore, the repair process of the defect becomes important more and more in the respect of reducing Cost of Ownership(CoO). However, the general repair technique, high accelerating voltage FIB cannot be applied to EUV mask repair because high accelerated ion can damage Mo/Si multi layer and change the reflectance of repaired area.

There are some candidates, that is, nanomachining repair, e-beam repair, and modified FIB repair as the EUV repair. We will show how we repair the artificial defect on EUV mask using these techniques, and compare the repair performance of them through the wafer printability test.