

ABSTRACT

5 A photomask blank having a thin film on a transparent substrate is inspected for
defects by irradiating inspection light to a surface region of the blank, collecting the
reflected light from the irradiated region via an inspection optical system to form a
magnified image of the region, extracting a feature parameter of light intensity distribution
from the magnified image, and identifying the bump/pit shape of the defect based on the
10 feature parameter combined with the structure of the thin film. The defect inspection
method is effective for discriminating defects of bump or pit shape in a highly reliable
manner. On application of the defect inspection method, photomask blanks having no
pinhole defects are available at lower costs and higher yields.

15 Fig. 8