

Highly Sensitive Mapdsm-mapdst Based Resist Technology For Next Generation Lithography Applications

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ABSTRACT

The present Invention demonstrates the nanopatterning ability of highly sensitive non-chemically amplified (n-CAR) MAPDSM-MAPDST copolymer resists to pattern the sub-20 nm isolated, dense lines and various complex nanofeatures by using various exposure tools including 365 nm (i-line), 248 (DUVL), 13.5 nm (EUV) and e-beam. This invention addresses many of the road blocks in semiconductor Industries for fabricating nano electronic devices with 20 nm nodes and beyond.

KEY APPLICATION AREAS

1. Semiconductor manufacturing.
2. Next-generation lithography (UV, DUV, EUV & E-beam).
3. Microelectronics and nanoelectronics.
4. VLSI and integrated circuit (IC) fabrication.
5. Nanophotonics and nanofabrication.

POTENTIAL USE CASES

1. Fabrication of sub-20 nm semiconductor devices.
2. High-resolution nanopatterning of ICs.
3. Photonic crystal and optical component fabrication.
4. High-density data storage media.
5. Micro-lens arrays, tissue engineering and catalysis.