

SPIN-ON CARBON COMPOSITIONS FOR LITHOGRAPHIC PROCESSING

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ABSTRACT

10 The invention described herein is directed towards spin-on carbon materials
comprising polyamic acid compositions and a crosslinker in a solvent system. The materials
are useful in trilayer photolithography processes. Films made with the inventive
compositions are not soluble in solvents commonly used in lithographic materials, such as,
but not limited to PGME, PGMEA, and cyclohexanone. However, the films can be dissolved
15 in developers commonly used in photolithography. In one embodiment, the films can be
heated at high temperatures to improve the thermal stability for high temperature processing.
Regardless of the embodiment, the material can be applied to a flat/planar or patterned
surface. Advantageously, the material exhibits a wiggling resistance during pattern transfer
to silicon substrate using fluorocarbon etch.

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[Figure 3]