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# (12) United States Patent

## Sagehashi et al.

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## (54) MONOMER, POLYMER, RESIST COMPOSITION, AND PATTERNING PROCESS

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(52) U.S. Cl.

(58) Field of Classification Search

None

See application file for complete search history.

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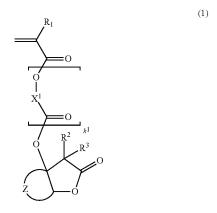
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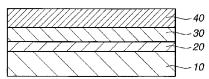
### (57) ABSTRACT

A polymer for resist use is obtainable from a monomer having formula (1) wherein  $R^1$  is H,  $CH_3$  or  $CF_3$ ,  $R^2$  and  $R^3$  each are H or a monovalent hydrocarbon group,  $X^1$  is a divalent hydrocarbon group,  $k^1$ =0 or 1, and Z forms a 5 or 6-membered alicyclic ring. A resist composition comprising the polymer is shelf stable and displays a high dissolution contrast, controlled acid diffusion and low roughness during both alkaline development and organic solvent development.



17 Claims, 1 Drawing Sheet

#### PHOTORESIST COATING



### PHOTORESIST EXPOSURE

