in which

Xa represents a hydrogen atom or a linear or branched alkyl group, and

Rx represents a hydrogen atom or a group that when acted on by an acid, is decomposed to thereby be cleaved.

- **6**. The method according to claim **1**, wherein the resin (A) contains neither any aromatic group containing a phenolic hydroxyl group nor any aromatic group containing a phenolic hydroxyl group whose hydrogen atom is replaced by a group that when acted on by an acid, is decomposed to thereby be cleaved.
- 7. The method according to claim 1, wherein the developer is a developer comprising at least one organic solvent selected from among a ketone solvent, an ester solvent, an alcohol solvent, an amide solvent and an ether solvent.
- **8**. An actinic-ray- or radiation-sensitive resin composition for use in the method according to claim **1**.
- 9. The actinic-ray- or radiation-sensitive resin composition according to claim 8, comprising a resin (A) comprising a repeating unit containing a group that when acted on by an acid, is decomposed to thereby produce a polar group and comprising an aromatic group, which resin when acted on by an acid, decreases its solubility in an organic solvent, a nonionic compound (B) that when exposed to actinic rays or radiation, generates an acid and a solvent (C).
- 10. The actinic-ray- or radiation-sensitive resin composition according to claim 8, wherein the repeating unit containing a group that when acted on by an acid, is decomposed to thereby produce a polar group, contained in the resin (A) is expressed by general formula (I) below,

$$(I)$$

$$R_1 \longrightarrow C \longrightarrow R_3$$

$$R_2$$

in which

R<sub>o</sub> represents a hydrogen atom or a linear or branched alkyl 55 group optionally substituted with a fluorine atom or a hydroxyl group, and

- each of  $R_1$ ,  $R_2$  and  $R_3$  independently represents an optionally substituted linear or branched alkyl group or an optionally substituted cycloalkyl group, provided that any two of  $R_1$ ,  $R_2$  and  $R_3$  may be bonded to each other to thereby form a monocyclic or polycyclic structure.
- 11. The actinic-ray- or radiation-sensitive resin composition according to claim 8, wherein a repeating unit containing 65 the aromatic group contained in the resin (A) is expressed by general formula (II) below,

(II)  $\begin{array}{c}
R_0 \\
X \\
\downarrow \\
(R_4)n \\
\downarrow \\
Ar
\end{array}$ 

in which

 $R_{\rm o}$  represents a hydrogen atom or a linear or branched alkyl group optionally substituted with a fluorine atom or a hydroxyl group,

X represents a single bond or a bivalent connecting group, Ar represents an optionally substituted aromatic group, provided that when a substituent is introduced in the aromatic group, the substituent is any of an alkyl group (optionally substituted), a cycloalkyl group (optionally substituted), an aryl group, a halogen atom, a cyano group, an amino group, a nitro group and a carboxyl group,

R<sub>4</sub> represents an optionally substituted alkylene group, and n is an integer of 0 to 4.

- 12. The actinic-ray- or radiation-sensitive resin composition according to claim 11, wherein in general formula (II), X is —COO— or —CONH—.
- 13. The actinic-ray- or radiation-sensitive resin composition according to claim 8, wherein the content of any of repeating units of general formula (III) below contained in the resin (A) is up to 20 mol % based on all the repeating units of the resin (A),

in which

45

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Xa represents a hydrogen atom or a linear or branched alkyl group, and

Rx represents a hydrogen atom or a group that when acted on by an acid, is decomposed to thereby be cleaved.

- 14. The actinic-ray- or radiation-sensitive resin composition according to claim 8, wherein the resin (A) contains neither any aromatic group containing a phenolic hydroxyl group nor any aromatic group containing a phenolic hydroxyl group whose hydrogen atom is replaced by a group that when acted on by an acid, is decomposed to thereby be cleaved.
- 15. An actinic-ray- or radiation-sensitive film formed from the actinic-ray- or radiation-sensitive resin composition according to claim 8.
- 16. A process for manufacturing a semiconductor device, comprising the method according to claim 1.
- 17. A semiconductor device manufactured by the process of claim 16.
- 18. The actinic-ray- or radiation-sensitive resin composition according to claim 11, wherein X represents a single bond and/or n is an integer of 1 to 4.

\* \* \* \* \*