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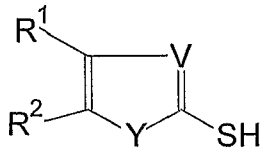
(54) Title: NOVEL PHOTOSENSITIVE RESIN COMPOSITIONS



(VI)

(57) Abstract: A photosensitive resin composition comprising: (a) at least one polybenzoxazole precursor polymer; (b) at least one compound having Structure VI wherein, V is CH or N, Y is O or NR^3 wherein R^3 is H, CH3 or C2H5, R^1 and R^2 each independently are H, C_1 - C_4 alkyl group, C_1 - C_4 alkoxy group, cyclopentyl or cyclohexyl, or alternatively, R^1 and R^2 can be fused to produce a substituted or unsubstituted benzene ring; and (c) at least one solvent; wherein the amount of the compound of Structure VI present in the composition is effective to inhibit residue from forming when the composition is coated on a substrate and the coated substrate is subsequently processed to form an image on the substrate, and with the proviso that if the polybenzoxazole precursor polymer solely consists of polybenzoxazole precursor polymers that do not contain a photoactive moiety in the polymer, then (d) at least one photoactive compound is also present in the composition.. The present invention also concerns a process for forming a relief pattern and electronic parts using the composition.

WO 2006/104803 A3

INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

INT. CL.

G03C 1/73 (2006.01) ***G03F 7/027*** (2006.01) ***C08K 5/37*** (2006.01)
G03F 7/004 (2006.01) ***G03F 7/039*** (2006.01)

U.S. CL.

430/270.1 ; 430/18

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
CA; WPIDS: structure search (formula VI)+ ?thiol?, photo?, photosens?, photoresist?

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 3645772 A (JONES) 29 February 1972 (see whole document)	1-26
A	US 3873316 A (VELTEN et. al.) 25 March 1975 (see whole document)	1-26
X	US 6001517 A (KAWAMONZEN) 14 December 1999 (see whole document)	1

[X] Further documents are listed in the continuation of Box C [X] See patent family annex

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6183934 B1 (KAWAMONZEN) 6 February 2001 (see whole document)	1
X	US 6159654 A (MACHIDA et. al.) 12 December 2000 (see whole document)	1
X	JP 2004264537 A (HITACHI CHEMICAL DUPONT MICROSYSTEMS LTD) 24 September 2004 (see English translation of full document obtained from JAPIO website: URL: http://www4.ipdl.inpit.go.jp/Tokujitu/PAJdetail.ipdl?N0000=60&N0120=01&N2001=2&N3001=2004-264537)	1
X	JP 9316326 A (TOYOBO CO LTD) 9 December 1997 (see English translation of full document obtained from JAPIO website; URL: http://www4.ipdl.inpit.go.jp/Tokujitu/PAJdetail.ipdl?N0000=60&N0120=01&N2001=2&N3001=H09-316326)	1
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A	GI XUE et. al. "The formation of an effective anti-corrosion film on copper surfaces from 2-mercaptobenzimidazole solution" J. Electroanal. Chem., vol. 310, 1991, p.p. 139-148 (see whole document)	1-26
A	JIAN DONG et al. "Studies of polyimide/copper interface and its improvement by a two-component primer" Die Angewandte Makromolekulare Chemie vol. 230 (4044) 1995, p.p. 143 -157 (see whole document)	1-26

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.
PCT/US2006/10394

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. These particulars are merely given for the purpose of information.

Patent Document Cited in Search Report		Patent Family Member					
US	3645772						
US	3873316	BE	768258	CA	962503	CH	570639
		DE	2028773	ES	392064	FR	2096217
		GB	1337825	NL	7107486	SU	429599
US	6001517	JP	10186659				
US	6159654	JP	9297400				
US	6183934	JP	11072918				
JP	9316326						
JP	2004264537						
WO	2005101125						

END OF ANNEX