

(19)



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11) Publication number:

0 660 337 A3

(12)

EUROPEAN PATENT APPLICATION(21) Application number: **94120409.1**(51) Int. Cl.⁶: **H01C 7/112, H01C 17/06**(22) Date of filing: **22.12.94**

(30) Priority: **24.12.93 JP 326588/93**
17.02.94 JP 20209/94

(43) Date of publication of application:
28.06.95 Bulletin 95/26

(84) Designated Contracting States:
DE FR GB

(88) Date of deferred publication of the search report:
08.11.95 Bulletin 95/45

(71) Applicant: **MATSUSHITA ELECTRIC
INDUSTRIAL CO., LTD.**
1006, Oaza Kadoma
Kadoma-shi,
Osaka-fu, 571 (JP)

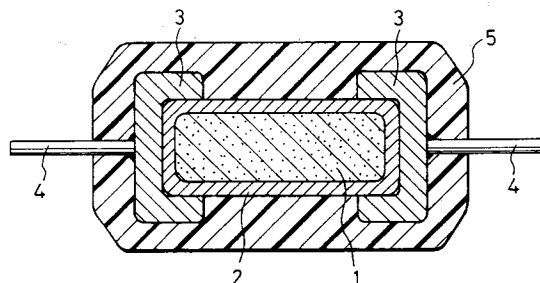
(72) Inventor: **Hattori, Akiyoshi**
3-A17-104, Otokoyama-takezono
Yawata City, 614 (JP)
Inventor: **Hori, Yoshihiro**
46-3-402, Yamadaike-higashimachi
Hirakata City, 573-01 (JP)
Inventor: **Yoshida, Akihiko**
19-13, Korien Yamanote-cho
Hirakata City, 573 (JP)

(74) Representative: **Jung, Elisabeth, Dr. et al**
Patentanwälte
Dr. Elisabeth Jung
Dr. Jürgen Schirdewahn
Dr. Claus Gernhardt
Postfach 40 14 68
D-80714 München (DE)

(54) **Metal oxide film resistor and method for producing the same.**

(57) A metal oxide film resistor comprises mainly zinc oxide and an auxiliary oxide of at least one metal added as an activator for covering a wide range of resistance of from 1 k Ω to 10 M Ω . A method of producing such a metal oxide film resistor comprises the steps of preparing a solution composed of at least a zinc salt, and forming a zinc oxide film (2) on an insulating substrate (1) by supplying a vapor of the solution to the insulating substrate (1) heated to a temperature at which the zinc salt thermally decomposes and by thermally decomposing the zinc salt on the surface of the insulating substrate (1).

FIG. 1


EP 0 660 337 A3



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 94 12 0409

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
X	DE-C-36 12 620 (SIEMENS AG) 2 July 1987 * column 3, line 1 - column 5, line 58; figures 3-6 *	1-13	H01C7/112 H01C17/06
X	--- PATENT ABSTRACTS OF JAPAN vol. 016 no. 534 (M-1334) ,4 November 1992 & JP-A-04 201251 (MATSUSHITA ELECTRIC IND CO LTD) 22 July 1992, * abstract *	1,2	
A	--- DATABASE WPI Section Ch, Week 9345 Derwent Publications Ltd., London, GB; Class E32, AN 93-357028 & JP-A-05 262 524 (IDEMITSU KOSAN CO LTD) , 12 October 1993 * abstract *	1-13	
A	--- FR-A-2 670 200 (SAINT GOBAIN VITRAGE INT) 12 June 1992 * the whole document *	3-13	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			H01C
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 8 September 1995	Examiner Lina, F
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			