

Title (en)  
Current/voltage nonlinear resistor

Title (de)  
Strom/Spannung nichtlinearer Widerstand

Title (fr)  
Résistance courant/tension non-linéaire

Publication  
**EP 1798741 A1 20070620 (EN)**

Application  
**EP 06025718 A 20061212**

Priority  
JP 2005365084 A 20051219

Abstract (en)  
The present invention provides a current/voltage nonlinear resistor with which the compositional ranges of sub-components are limited, which allows resistance, nonlinear resistance characteristics, and thermal stability to be improved, and contributes to making a lightning arrester smaller. Zinc oxide (ZnO) is contained as the main component, and bismuth (Bi), cobalt (Co), manganese (Mn), antimony (Sb), nickel (Ni), gallium (Ga), and a rare earth element (R) are contained as sub-components in proportions, calculated as Bi 2 O 3 , Co 2 O 3 , MnO, Sb 2 O 3 , NiO, Ga 3+ , and R 2 O 3 , of 0.3 to 1.5 mol% Bi 2 O 3 , 0.3 to 2.0 mol% Co 2 O 3 , 0.4 to 3.0 mol% MnO, 0.5 to 4.0 mol% Sb 2 O 3 , 0.5 to 4.0 mol% NiO, 0.0005 to 0.02 mol% Ga 3+ , and 0.05 to 1.0 mol% R 2 O 3 .

IPC 8 full level  
**H01C 7/112** (2006.01)

CPC (source: EP KR)  
**H01C 7/10** (2013.01 - KR); **H01C 7/112** (2013.01 - EP)

Citation (search report)

- [X] EP 1150306 A2 20011031 - TOSHIBA KK [JP]
- [A] EP 0029749 A1 19810603 - MATSUSHITA ELECTRIC IND CO LTD [JP]
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Designated contracting state (EPC)  
DE FR

Designated extension state (EPC)  
AL BA HR MK YU

DOCDB simple family (publication)  
**EP 1798741 A1 20070620; EP 1798741 B1 20110126**; CN 1988064 A 20070627; CN 1988064 B 20111116; DE 602006019816 D1 20110310; JP 2007173313 A 20070705; KR 100812425 B1 20080310; KR 20070065215 A 20070622

DOCDB simple family (application)  
**EP 06025718 A 20061212**; CN 200610160468 A 20061128; DE 602006019816 T 20061212; JP 2005365084 A 20051219; KR 20060124571 A 20061208