

Title (en)

Electrical resistor and application of this resistor in a current limiter

Title (de)

Elektrisches Widerstandselement und Verwendung dieses Widerstandselementes in einem Strombegrenzer

Title (fr)

Résistance électrique et application de cette résistance dans un limiteur de courant

Publication

**EP 0640995 B1 19970625 (DE)**

Application

**EP 93113545 A 19930825**

Priority

EP 93113545 A 19930825

Abstract (en)

[origin: EP0640995A1] The electrical resistor element (10) contains, arranged between two plane-parallel electrodes (1, 2) exposed to pressure, a resistor body (3) having a positive temperature characteristic and comprising a polymer matrix and two filler components of electrically conductive particles embedded in the polymer matrix (4). When a short-circuit occurs, the resistivity of the resistor body (3) changes suddenly above a temperature limit value in a surface layer located on the electrodes and containing at least a first of the two filler components. A second of the two filler components is selected such that a binder material containing at least a polymer matrix and a second filler component has a positive temperature characteristic with a step response which is at least an order of magnitude higher than the surface layer. At the same time, this binder material has a resistivity which is at least an order of magnitude less than a binder material formed by polymer matrix and a first filler component. The resistor element has a high rated current-carrying capacity and can limit large short-circuit currents with long-lasting effect. <IMAGE>

IPC 1-7

**H01C 7/02**; **H01C 7/13**

IPC 8 full level

**H01C 7/02** (2006.01); **H01C 7/13** (2006.01); **H02H 9/02** (2006.01)

CPC (source: EP US)

**H01C 7/027** (2013.01 - EP US); **H01C 7/13** (2013.01 - EP US)

Cited by

EP0836201A3; US5929744A; EP0852385A1; US5978191A; US6133820A; US5977861A; CN103199491A; US5614881A; EP0762439A3; US6124780A; US5867356A; US6535103B1; WO0010177A1; US6366193B2; US6290879B1; US6711807B2; US6323751B1; US6540944B2; US6373372B1; US6191681B1; US6362722B1

Designated contracting state (EPC)

DE FR IT

DOCDB simple family (publication)

**EP 0640995 A1 19950301**; **EP 0640995 B1 19970625**; CA 2130622 A1 19950226; DE 59306823 D1 19970731; JP H07153604 A 19950616; US 5602520 A 19970211

DOCDB simple family (application)

**EP 93113545 A 19930825**; CA 2130622 A 19940822; DE 59306823 T 19930825; JP 19985794 A 19940824; US 29190394 A 19940818