

Title (en)
Resistor element

Title (de)
Widerstandselement

Title (fr)
Élément de résistance

Publication
EP 0936632 B1 20020529 (DE)

Application
EP 98811217 A 19981210

Priority
DE 19800470 A 19980109

Abstract (en)
[origin: US6157290A] The resistor body of a nonlinear resistor element having PTC characteristics includes a pulverulent first filler, whose material, e.g. TiB₂, TiC, VC, WC, ZrBr₂, MoSi₂, has a specific conductivity of at most 10⁻³ OMEGA cm and in which the particle sizes are between 10 and 40 mu , and also, in order to improve the voltage sustaining capability by extending the switching zone and to achieve uniform energy absorption, includes a likewise pulverulent second filler having varistor characteristics and particle sizes between 50 and 200 mu , whose specific resistance at field strengths >=2000 V/cm such as occur in the switching region of the resistor element and above, is at most 50 OMEGA cm, preferably at most 15 OMEGA cm, the fillers being embedded in a matrix made of a thermoplastic, in particular HD polyethylene or a thermoset. The average particle size of the second filler should exceed that of the first filler by a factor of from 2 to 5. A potentially particularly suitable material for the second filler is SiC doped with Al, B, Ga, In, N, P, As, as is similarly doped ZnO.

IPC 1-7
H01C 7/02; **H01C 7/112**

IPC 8 full level
H01C 7/02 (2006.01); **H01C 7/112** (2006.01)

CPC (source: EP US)
H01C 7/027 (2013.01 - EP US); **H01C 7/112** (2013.01 - EP US)

Designated contracting state (EPC)
AT DE ES FI FR GB NL SE

DOCDB simple family (publication)
US 6157290 A 20001205; AT E218242 T1 20020615; CN 1143324 C 20040324; CN 1226733 A 19990825; DE 19800470 A1 19990715; DE 59804235 D1 20020704; EP 0936632 A1 19990818; EP 0936632 B1 20020529

DOCDB simple family (application)
US 22617099 A 19990107; AT 98811217 T 19981210; CN 99101039 A 19990108; DE 19800470 A 19980109; DE 59804235 T 19981210; EP 98811217 A 19981210