

Title (en)

FUSIBLE ELEMENT, METHOD FOR PRODUCTION THEREOF, SAFETY CIRCUIT AND FUSE

Title (de)

SCHMELZLEITER UND VERFAHREN ZU SEINER HERSTELLUNG SOWIE SICHERUNGSLEITER UND SICHERUNG

Title (fr)

CONDUCTEUR FUSIBLE, SON PROCEDE DE FABRICATION, CONDUCTEUR DE SECURITE ET COUPE-CIRCUIT A FUSIBLE

Publication

EP 1281190 B1 20040204 (DE)

Application

EP 01919045 A 20010417

Priority

- CH 0100242 W 20010417
- DE 10022241 A 20000508

Abstract (en)

[origin: WO0186684A1] The invention relates to a circuit breaker, comprising a fuse unit (6) with a fusible element (7) made from a conducting material (8), such as Ag, Cu or Al, provided with a series of regularly spaced doping sites (9). The conducting material bears a layer of a first compound (10) in direct contact on the above sites, said compound containing a doping material such as In or Ge and forming mixed crystals, which contain the conducting material (8) and the doping material in a fixed stoichiometric ratio such as Ag₂In, for example, and is separated from the first by a stable phase boundary. The doping sites (9) weaken the fusible conductor by lowering the melting point to beneath 250 DEG C, such that an arc is quickly formed on a short circuit occurring, even though the electrical resistance per unit length thereof is possibly only a few percent greater than in the other region. The fusible element (7) has a continuous coat of an inflammable material (12), with an ignition temperature preferably lower than the melting point of the first compound (10).

IPC 1-7

H01H 85/11; **H01H 85/06**

IPC 8 full level

H01H 85/06 (2006.01); **H01H 85/11** (2006.01)

CPC (source: EP US)

H01H 85/11 (2013.01 - EP US); **H01H 85/06** (2013.01 - EP US); **Y10T 29/49107** (2015.01 - EP US)

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

DOCDB simple family (publication)

WO 0186684 A1 20011115; AT E259096 T1 20040215; AU 2001246284 B2 20041111; AU 4628401 A 20011120; DE 10022241 A1 20011115; DE 50101444 D1 20040311; EP 1281190 A1 20030205; EP 1281190 B1 20040204; NO 20025368 D0 20021108; NO 20025368 L 20021108; NO 322878 B1 20061218; PL 358365 A1 20040809; US 2003098770 A1 20030529; US 6791448 B2 20040914

DOCDB simple family (application)

CH 0100242 W 20010417; AT 01919045 T 20010417; AU 2001246284 A 20010417; AU 4628401 A 20010417; DE 10022241 A 20000508; DE 50101444 T 20010417; EP 01919045 A 20010417; NO 20025368 A 20021108; PL 35836501 A 20010417; US 27509502 A 20021101