

Title (en)
GERMANIUM-FREE SILICATE WAVEGUIDE COMPOSITIONS FOR ENHANCED L-BAND AND S-BAND EMISSION AND METHOD FOR ITS MANUFACTURE

Title (de)
GERMANIUMFREIE SILIKAT-WELLENLEITERZUSAMMENSETZUNGEN ZUR VERBESSERTEN EMISSION IM L-BAND UND S-BAND UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)
COMPOSITIONS DE GUIDES D'ONDES DE SILICATE EXEMPT DE GERMANIUM POUR LES EMISSIONS EN BANDE S ET BANDE L ET PROCEDE DE FABRICATION

Publication
EP 1461295 A2 20040929 (EN)

Application
EP 02806137 A 20021203

Priority
• US 0238303 W 20021203
• US 34507601 P 20011231
• US 29922402 A 20021119
• US 29965402 A 20021119

Abstract (en)
[origin: WO03057643A2] A method for manufacturing an optical fiber and the resulting article. The method including the steps of: providing a substrate tube; depositing high purity silica-based cladding layers on the inside of the tube; depositing a germanium-free core comprising a glass including silica, and oxides of Al, La, Er, and Tm; collapsing the substrate tube to form a preform; and drawing the preform to yield an optical fiber. A germanium-free co-doped silicate optical waveguide in accordance with the present invention includes a core material comprising silica, aluminum, lanthanum, erbium and thulium, wherein the concentration of Er is from 15 ppm to 3000 ppm; Al is from 0.5 mol% to 15 mol%; La is less than 2 mol%; and Tm is from 150 ppm to 10000 ppm. In an exemplary specific embodiment the concentration of Al is from 4 mol% to 10 mol%; and the concentration of Tm is from 150 ppm to 3000 ppm. The core may further include F. In an exemplary embodiment, the concentration of F is less than or equal to 6 mol%. The waveguide may be an optical fiber, a shaped fiber or other light-guiding waveguides. An amplifier according to the present invention includes the optical fiber described above.

IPC 1-7
C03C 13/04

IPC 8 full level
C03B 19/10 (2006.01); **C03B 37/018** (2006.01); **C03C 3/06** (2006.01); **C03C 13/04** (2006.01); **H01S 3/067** (2006.01); **H01S 3/16** (2006.01)

CPC (source: EP)
C03B 19/102 (2013.01); **C03B 19/1065** (2013.01); **C03B 37/01807** (2013.01); **C03B 37/01838** (2013.01); **C03C 3/06** (2013.01); **C03C 13/046** (2013.01); **H01S 3/067** (2013.01); **C03B 2201/12** (2013.01); **C03B 2201/28** (2013.01); **C03B 2201/36** (2013.01); **C03C 2201/12** (2013.01); **C03C 2201/28** (2013.01); **C03C 2201/3417** (2013.01); **C03C 2201/3458** (2013.01); **C03C 2201/3476** (2013.01); **C03C 2201/3482** (2013.01); **C03C 2201/36** (2013.01); **H01S 3/0672** (2013.01); **H01S 3/0677** (2013.01); **H01S 3/06775** (2013.01); **H01S 3/1608** (2013.01); **H01S 3/1616** (2013.01); **Y02P 40/57** (2015.11)

Citation (search report)
See references of WO 03057643A2

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SI SK TR

DOCDB simple family (publication)
WO 03057643 A2 20030717; **WO 03057643 A3 20031002**; AU 2002357041 A1 20030724; AU 2002357041 A8 20030724; CA 2472053 A1 20030717; CN 1708461 A 20051214; EP 1461295 A2 20040929

DOCDB simple family (application)
US 0238303 W 20021203; AU 2002357041 A 20021203; CA 2472053 A 20021203; CN 02826394 A 20021203; EP 02806137 A 20021203