

Title (en)

METHOD AND DEVICE FOR CUTTING THROUGH SEMICONDUCTOR MATERIALS

Title (de)

VERFAHREN UND VORRICHTUNG ZUM DURCHTRENNEN VON HALBLEITERMATERIALIEN

Title (fr)

PROCEDE ET DISPOSITIF POUR SEPARER DES MATERIAUX A SEMI-CONDUCTEURS PAR DECOUPE

Publication

EP 1747081 A1 20070131 (DE)

Application

EP 05729837 A 20050401

Priority

- EP 2005003422 W 20050401
- DE 102004024475 A 20040514

Abstract (en)

[origin: WO2005115678A1] The invention relates to a method for cutting through semiconductor materials during which a laser beam (10) is oriented toward a cutting zone (18) of the semiconductor material (4). The wavelength of the laser radiation is selected so that the laser beam is partially transmitted under partial absorption from the semiconductor material. According to the invention, the wavelength of the laser radiation ranges from approximately 1100 to approximately 1150 nm, particularly from 1115 to 1125 nm. The wavelength of the laser radiation is selected so that the transmittance of the semiconductor material (4) ranges from approximately 30 % to approximately 60 %, particularly from 45 % to 55 %. The inventive method makes it possible to rapidly and precisely cut through semiconductor materials, particularly wafers.

IPC 8 full level

B23K 26/40 (2006.01); **B23K 26/06** (2006.01)

CPC (source: EP US)

B23K 26/064 (2015.10 - EP US); **B23K 26/40** (2013.01 - EP US); **B23K 2101/35** (2018.07 - EP US); **B23K 2101/40** (2018.07 - EP US); **B23K 2103/50** (2018.07 - EP US); **B23K 2103/52** (2018.07 - EP US)

Citation (search report)

See references of WO 2005115678A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)

WO 2005115678 A1 20051208; DE 102004024475 A1 20051201; EP 1747081 A1 20070131; US 2007170162 A1 20070726

DOCDB simple family (application)

EP 2005003422 W 20050401; DE 102004024475 A 20040514; EP 05729837 A 20050401; US 59882106 A 20061114