

Title (en)

MICROCOMPONENT WITH NANOSTRUCTURED SILICON SURFACE, METHOD FOR PRODUCING IT, AND CONNECTION ARRANGEMENT COMPRISING SUCH MICROCOMPONENTS

Title (de)

MIKROBAUTEIL MIT NANOSTRUKTURIERTER SILIZIUMOBERFLÄCHE, VERFAHREN ZU SEINER HERSTELLUNG SOWIE VERBINDUNGSANORDNUNG AUS SOLCHEN MIKROBAUTEILEN

Title (fr)

MICROCOMPOSANT A SURFACE SILICIUM NANOSTRUCTUREE, PROCEDE PERMETTANT DE LE PRODUIRE ET SYSTEME D'ASSEMBLAGE COMPOSE DE TELS MICROCOMPOSANTS

Publication

EP 1910219 A1 20080416 (DE)

Application

EP 06778151 A 20060803

Priority

- EP 2006065019 W 20060803
- DE 102005037139 A 20050806

Abstract (en)

[origin: WO2007017458A1] The invention relates to a microcomponent (02) with a nanostructured silicon surface (01), which has, at least in sections, a multiplicity of wedge-shaped nanoobjects (03) uniformly distributed statistically at the nanostructured surface. The nanoobjects extend, proceeding from the surface, essentially perpendicular to the surface and are shaped essentially uniformly. Furthermore, the invention relates to a method for producing such a microcomponent (02), wherein cyclically a silicon surface is etched and a passivation layer is subsequently deposited on the etched silicon surface. Finally, the invention relates to a connection arrangement comprising at least two microcomponents (02) which each have a nanostructured silicon surface (01) with a multiplicity of wedge-shaped nanoobjects (03) that are uniformly distributed statistically, wherein, in order to produce the connection, the nanostructured silicon surfaces (01) of the microcomponents (02) are positioned opposite one another and pressed together by exerting a joining force (06).

IPC 8 full level

B81C 3/00 (2006.01); **A44B 18/00** (2006.01); **F16B 5/07** (2006.01)

CPC (source: EP)

B81C 3/001 (2013.01); **F16B 5/07** (2013.01)

Citation (search report)

See references of WO 2007017458A1

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 LV MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)

DE 102005037139 A1 20070208; EP 1910219 A1 20080416; WO 2007017458 A1 20070215

DOCDB simple family (application)

DE 102005037139 A 20050806; EP 06778151 A 20060803; EP 2006065019 W 20060803