

Title (en)
RADIATION-EMITTING DEVICE

Title (de)
STRAHLUNGSEMITTIERENDE VORRICHTUNG

Title (fr)
DISPOSITIF ÉMETTEUR DE RAYONNEMENT

Publication
EP 2064301 A1 20090603 (DE)

Application
EP 07785712 A 20070822

Priority
• DE 2007001485 W 20070822
• DE 102006045705 A 20060927
• DE 102007020782 A 20070503

Abstract (en)
[origin: DE102007020782A1] The radiation emitting device (1) comprises a radiation-emitting functional layer (2) emitting a primary radiation (4) in the blue region, a radiation conversion material arranged in a beam path of the functional layer, and a radiation conversion luminescent material (31) converting a part of the primary radiation into a secondary radiation (5). The wavelength of the primary radiation is 400-470 nm. The material of the functional layer has a semiconductor. The luminescent material is activated in the blue-region and/or the UV-region and in the range of 360-470 nm. The radiation emitting device (1) comprises a radiation-emitting functional layer (2) emitting a primary radiation (4) in the blue region, a radiation conversion material arranged in a beam path of the functional layer, and a radiation conversion luminescent material (31) converting a part of the primary radiation into a secondary radiation (5). The wavelength of the primary radiation is 400-470 nm. The material of the functional layer has a semiconductor. The luminescent material is activated in the blue-region and/or the UV-region and in the range of 360-470 nm, and has a maximum emission of 512+- 3 nm. The conversion material is formed as layer-like radiation conversion body and the functional layer covers on one or more sides. The body partially converts the primary radiation into secondary radiation and the non-converted primary radiation superimposes itself with the secondary radiation, so that a mixture is existed from the primary- and secondary radiation. The conversion material comprises additional luminescent material. The body has a transparent matrix, in which the radiation conversion luminescent material is present. The luminescent material is represented by Ca 2. 6 2 5Eu 0. 0 5 5Mg 0. 3 2SiO 4Cl 2 in the range of 0-0.5. An independent claim is included for a procedure for the production of a radiation emitting device.

IPC 8 full level
C09K 11/77 (2006.01); **H01L 33/00** (2006.01); **H01L 33/50** (2010.01)

CPC (source: EP KR US)
C09K 11/77 (2013.01 - KR); **C09K 11/77342** (2021.01 - EP KR US); **H01L 33/502** (2013.01 - EP US); **H10K 59/38** (2023.02 - EP US); **H01L 2224/48091** (2013.01 - EP US); **H01L 2224/48247** (2013.01 - EP US); **H01L 2224/48465** (2013.01 - EP US); **H01L 2224/8592** (2013.01 - EP US); **H01L 2924/12044** (2013.01 - EP US); **H01L 2924/181** (2013.01 - EP US)

Citation (search report)
See references of WO 2008040270A1

Designated contracting state (EPC)
DE FR GB

Designated extension state (EPC)
AL BA HR MK RS

DOCDB simple family (publication)
DE 102007020782 A1 20080403; CN 101517035 A 20090826; CN 101517035 B 20130130; EP 2064301 A1 20090603; JP 2010505243 A 20100218; KR 101460377 B1 20141110; KR 20090075696 A 20090708; TW 200816528 A 20080401; TW I362763 B 20120421; US 2010006879 A1 20100114; US 8115223 B2 20120214; WO 2008040270 A1 20080410

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