

Title (en)

LED CHIP INSERT, ILLUMINATION DEVICE, LIGHTING MODULE AND METHOD FOR PRODUCING THE ILLUMINATION DEVICE

Title (de)

LED-CHIP EINSATZ, BELEUCHTUNGSEINRICHTUNG, LEUCHTMODUL SOWIE VERFAHREN ZUM HERSTELLEN DER BELEUCHTUNGSEINRICHTUNG

Title (fr)

INSERT DE PUCE DE DEL, DISPOSITIF D'ÉCLAIRAGE, MODULE D'ÉCLAIRAGE ET PROCÉDÉ DE FABRICATION DU DISPOSITIF D'ÉCLAIRAGE

Publication

EP 4074146 A1 20221019 (DE)

Application

EP 21702595 A 20210120

Priority

- DE 102020200880 A 20200124
- EP 2021051225 W 20210120

Abstract (en)

[origin: WO2021148484A1] An LED chip insert for a circuit board comprises: a leadframe, in which punching is used to form a number of electrically conductive strands having respective ends having bearing surfaces that are designed for attachment to a circuit board and that form a common plane; wherein the leadframe has a region in the form of a depression in relation to the ends, an injection-moulded frame that is formed from an electrically insulating material and annularly surrounds a surface of the leadframe, which surface is exposed within the region of the depression and faces the ends of the strands, and consequently achieves a trough-shaped overall structure, at least one LED chip that is placed in the region in the form of a depression and has a first electrical contact connection and a second electrical contact connection, wherein the first electrical contact connection is electrically conductively connected to a first of the strands and the second electrical contact connection is electrically conductively connected to a second of the strands. The region of the leadframe in the form of a depression in relation to the ends may be inserted into a cutout in the circuit board such that the back faces thereof terminate flush with one another. In the lighting module, the back face of the depressed region of the circuit board may be in contact with an end cooling surface of a heat sink and dissipate heat there.

IPC 8 full level

H05K 1/18 (2006.01); **H05K 1/14** (2006.01)

CPC (source: EP US)

H05K 1/184 (2013.01 - EP US); **H01L 23/49861** (2013.01 - EP); **H01L 25/0753** (2013.01 - EP); **H01L 33/62** (2013.01 - EP); **H05K 1/142** (2013.01 - EP); **H05K 3/0014** (2013.01 - EP); **H05K 2201/09118** (2013.01 - EP); **H05K 2201/10106** (2013.01 - EP US); **H05K 2201/10272** (2013.01 - EP); **H05K 2203/049** (2013.01 - EP)

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

WO 2021148484 A1 20210729; CN 115004865 A 20220902; EP 4074146 A1 20221019; US 11716815 B2 20230801; US 2023059982 A1 20230223

DOCDB simple family (application)

EP 2021051225 W 20210120; CN 202180010861 A 20210120; EP 21702595 A 20210120; US 202117759348 A 20210120