

Title (en)
SEMICONDUCTOR POWER MODULE

Title (de)
HALBLEITERLEISTUNGSMODUL

Title (fr)
MODULE DE PUISSANCE À SEMI-CONDUCTEURS

Publication
EP 3966860 A1 20220316 (DE)

Application
EP 20717861 A 20200408

Priority
• DE 102019206820 A 20190510
• EP 2020060011 W 20200408

Abstract (en)
[origin: WO2020229063A1] The invention relates to a semiconductor power module (1) comprising a first power transistor (5LA) and a second power transistor (5LB), which are arranged in parallel between a first collector conductor track (11L) and a first emitter conductor track (9L), wherein a first connection surface of each of the power transistors (5LA, 5LB) is electrically conductively connected to the first collector conductor track (11L) and a second connection surface of each of the power transistors (5LA, 5LB) is electrically conductively connected to the first emitter conductor track (9L), such that a current flowing between the first collector conductor track (11L) and the first emitter conductor track (9L) is divided between the two power transistors (5LA, 5LB) when the power transistors (5LA, 5LB) are turned on in each case by means of an applied control voltage, wherein a first external power contact (P) is contacted with the first collector conductor track (11) directly at a first contact region (KB1), wherein a second external power contact (TL) is contacted with the first emitter conductor track (9L) at a second contact region (KB2) via a first connecting element (13), and wherein the second contact region (KB2) is positioned mechanically asymmetrically between the power transistors (5LA, 5LB) connected to the first emitter conductor track (9L) in such a way as to result in an electrical symmetry with identical effective control voltages at the two power transistors (5LA, 5LB).

IPC 8 full level
H01L 25/07 (2006.01); **H01L 23/34** (2006.01); **H01L 23/48** (2006.01); **H01L 25/18** (2006.01)

CPC (source: EP US)
H01L 23/36 (2013.01 - EP); **H01L 23/367** (2013.01 - US); **H01L 23/49524** (2013.01 - EP US); **H01L 23/49562** (2013.01 - EP US); **H01L 23/49575** (2013.01 - EP); **H01L 23/49894** (2013.01 - US); **H01L 25/072** (2013.01 - EP US); **H01L 25/18** (2013.01 - EP US); **H01L 2224/40137** (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)
DE 102019206820 A1 20201112; CN 113795917 A 20211214; EP 3966860 A1 20220316; US 11973064 B2 20240430; US 2022077119 A1 20220310; WO 2020229063 A1 20201119

DOCDB simple family (application)
DE 102019206820 A 20190510; CN 202080034252 A 20200408; EP 2020060011 W 20200408; EP 20717861 A 20200408; US 202017421307 A 20200408