

Title (en)
FLOW-COOLED POWER ELECTRONICS

Title (de)
FLUSSGEKÜHLTE LEISTUNGSELEKTRONIK

Title (fr)
ELECTRONIQUE DE PUISSANCE REFROIDIE PAR UN FLUX

Publication
EP 3729926 A1 20201028 (FR)

Application
EP 18807638 A 20181128

Priority
• FR 1762371 A 20171218
• EP 2018082886 W 20181128

Abstract (en)
[origin: WO2019120915A1] The invention relates to a device (1) for cooling a power electronics system (EP) comprising at least one power electronics component (2) mounted on at least one electronic board (3), the said cooling device (1) comprises a hose (4) for the circulation of a flow (5) at an ambient temperature, and the invention is characterized in that the cooling device (1) comprises a first heat-exchange surface (6) thermally connected to the power electronics components (2) and at least a second heat-exchange surface (7). This second heat-exchange surface (7) is intended to exchange heat with the flow (5) circulating through the hose and, for this reason, the second heat-exchange surface (7) is inserted inside the circulation hose (4) so as to remove heat by convection with the circulating flow (5). The second heat-exchange surface (7) is thermally connected to the first heat-exchange surface (6).

IPC 8 full level
H05K 7/20 (2006.01)

CPC (source: EP US)
F01D 25/12 (2013.01 - US); **F02B 37/10** (2013.01 - US); **F02B 39/005** (2013.01 - US); **H02K 9/227** (2021.01 - EP US); **H02K 11/33** (2016.01 - EP US); **H05K 7/20172** (2013.01 - US); **H05K 7/20272** (2013.01 - US); **H05K 7/20918** (2013.01 - EP US); **H05K 7/20927** (2013.01 - US); **F05D 2220/40** (2013.01 - US); **F05D 2260/20** (2013.01 - US); **H02K 9/223** (2021.01 - EP US); **H02K 2211/03** (2013.01 - US)

Citation (search report)
See references of WO 2019120915A1

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)
FR 3075563 A1 20190621; **FR 3075563 B1 20230901**; EP 3729926 A1 20201028; JP 2021507661 A 20210222; JP 7177836 B2 20221124; US 11323012 B2 20220503; US 2020321838 A1 20201008; WO 2019120915 A1 20190627

DOCDB simple family (application)
FR 1762371 A 20171218; EP 18807638 A 20181128; EP 2018082886 W 20181128; JP 2020533006 A 20181128; US 201816955168 A 20181128