

Title (en)

A vapor-based heat transfer apparatus

Title (de)

Vorrichtung zur Wärmeübertragung durch Verdampfung

Title (fr)

Appareil de transfert de chaleur par évaporation

Publication

**EP 2713132 A1 20140402 (EN)**

Application

**EP 12306167 A 20120926**

Priority

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Abstract (en)

A vapor-based heat transfer apparatus (100) comprising a hollow structure and a working liquid (116) within the hollow structure, wherein the structure is made of a thermally conductive polymer. In some embodiments the apparatus (100) comprises a vapor chamber (110). In some other embodiments, the apparatus comprises a vapor chamber (110), heat pipe and a heat sink (120).

IPC 8 full level

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**F28F 2245/04** (2013.01 - EP US)

Citation (search report)

- [XY] US 6237223 B1 20010529 - MCCULLOUGH KEVIN A [US]
- [Y] US 2002050344 A1 20020502 - KOKUBO AKIHISA [JP], et al
- [Y] US 2006016578 A1 20060126 - HUANG LUNG-WEI [TW]
- [Y] EP 2258998 A2 20101208 - GEN ELECTRIC [US]
- [X] WO 03017365 A2 20030227 - HONEYWELL INT INC [US], et al
- [X] US 2004174651 A1 20040909 - AISENBREY THOMAS [US]
- [X] US 2004190253 A1 20040930 - PRASHER RAVI [US], et al
- [X] WO 2005031238 A1 20050407 - LG CABLE LTD [KR], et al
- [X] US 2005199376 A1 20050915 - LEE YI-SHENG [TW]
- [A] US 2007012429 A1 20070118 - SIU WING M [HK]
- [A] EP 0910235 A1 19990421 - LUCENT TECHNOLOGIES INC [US]
- [A] WO 2008020295 A1 20080221 - ATI TECHNOLOGIES ULC [CA], et al
- [A] US 2009040726 A1 20090212 - HOFFMAN PAUL [US], et al
- [A] WO 2010124025 A2 20101028 - UNIV DUKE [US], et al
- [A] DE 202012004731 U1 20120605 - ASIA VITAL COMPONENTS CO LTD [TW]
- [Y] DATABASE WPI Section PQ Week 201210, Derwent World Patents Index; Class Q78, AN 2012-Q63920, XP002694514

Cited by

EP3194113A4; NO20181571A1; NO345777B1; US11598594B2; US11988453B2; WO2020117065A1; US12104856B2; US11353269B2;  
US11930621B2

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