

Title (en)

Apparatus for cooling heat generating electrical components.

Title (de)

Vorrichtung für die Kühlung von Wärme erzeugenden elektrischen Komponenten.

Title (fr)

Dispositif pour le refroidissement de composants électriques produisant de la chaleur.

Publication

EP 0000244 A1 19790110 (EN)

Application

EP 78300020 A 19780606

Priority

US 80709677 A 19770616

Abstract (en)

The apparatus comprises integrated circuit chips (10) which are to be cooled. <??>Heat is conducted from the chips (10) to a cold plate (36) by a heat transfer path including spring biased heat conducting members (26) and housing (16). <??>A thermal adapter (42) is sandwiched between the housing (16) and the cold plate (36) and introduces predetermined heat transfer characteristics between the housing and the plate. <??>The adapter can be a good or poor conductor. The adapter can comprise cut-out regions aligned with low powered chips to increase the thermal resistance to heat flow from those chips while the remaining regions, aligned with high powered chips, have a lower thermal resistance. This permits both the low and high powered chips to attain their optimum operating temperature.

IPC 1-7

H01L 23/36; **H01L 23/42**; **H01L 23/46**

IPC 8 full level

H05K 7/20 (2006.01); **H01L 23/373** (2006.01); **H01L 23/433** (2006.01); **H01L 23/473** (2006.01)

CPC (source: EP US)

H01L 23/3737 (2013.01 - EP US); **H01L 23/4338** (2013.01 - EP US); **H01L 23/473** (2013.01 - EP US); **H01L 2924/0002** (2013.01 - EP US)

C-Set (source: EP US)

H01L 2924/0002 + **H01L 2924/00**

Citation (search report)

- [A] IBM TECHNICAL DISCLOSURE BULLETIN, vol. 18, october 1975, New York, S.P. ANTIPPAS "Cooling cap for powder or liquid filled modules", pages 1387-1388.
- [A] IBM TECHNICAL DISCLOSURE BULLETIN, vol. 19, january 1977, New York, A.H. BAUMAN et al. "Multimodule heat sink", pages 2976-2977.

Cited by

EP0103068A3; EP0006445A1; EP0316129A1; EP0103067A3; GB2120860A

Designated contracting state (EPC)

DE FR GB

DOCDB simple family (publication)

EP 0000244 A1 19790110; **EP 0000244 B1 19800723**; DE 2860051 D1 19801113; JP S546774 A 19790119; JP S5631895 B2 19810724; US 4167771 A 19790911

DOCDB simple family (application)

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