

Title (en)  
PLANAR HEATING ELEMENT

Title (de)  
FLÄCHIGES HEIZELEMENT

Title (fr)  
ÉLÉMENT CHAUFFANT PLAN

Publication  
**EP 4033856 A1 20220727 (EN)**

Application  
**EP 22151874 A 20220117**

Priority  
JP 2021010499 A 20210126

Abstract (en)  
There is provided a technique that can radiate heat uniformly and efficiently from the front surface of a planar heating element (10) while suppressing the dissipation of heat from the back surface, the planar heating element (10) including a thin-film heating layer (11) arranged in a pattern of a thin-film line. A planar heating element (10) includes a thin-film heating layer 11 configured to provide a pattern of a line 11a, a front-surface member 12 serving as a surface that radiates heat from the thin-film heating layer 11, and the back-surface member 13 located across the thin-film heating layer 11 from the heat-radiating surface, in which expression (1) below holds:  $0.006 < R1/R2 < 0.7$  where R1 is thermal resistance of the front-surface member 12, and R2 is thermal resistance of the back-surface member 13.

IPC 8 full level  
**H05B 3/28** (2006.01); **H05B 3/34** (2006.01)

CPC (source: EP)  
**H05B 3/286** (2013.01); **H05B 3/347** (2013.01); **H05B 2203/003** (2013.01); **H05B 2203/013** (2013.01)

Citation (applicant)  
• JP 2010091185 A 20100422 - PANASONIC CORP  
• WO 2017130541 A1 20170803 - DENSO CORP [JP]

Citation (search report)  
• [XY] WO 2020022521 A1 20200130 - NIFCO INC [JP]  
• [XY] JP 2010052710 A 20100311 - PANASONIC CORP  
• [Y] US 2016144690 A1 20160526 - WITTKOWSKI THOMAS [DE], et al  
• [Y] JP 2010169303 A 20100805 - PANASONIC CORP

Designated contracting state (EPC)  
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BA ME

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