US 20230232539A1

(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2023/0232539 A1**

HIDA (43) **Pub. Date: Jul. 20, 2023**

(54) **TRANSPARENT HEATER AND DESIGNING METHOD FOR THE SAME**

(71) Applicant: **ASAHI KASEI KABUSHIKI KAISHA**, Tokyo (JP)

(72) Inventor: **Sora HIDA**, Tokyo (JP)

(73) Assignee: **ASAHI KASEI KABUSHIKI KAISHA**, Tokyo (JP)

(21) Appl. No.: **18/023,457**

(22) PCT Filed: **Aug. 30, 2021**

(86) PCT No.: **PCT/JP2021/031693**

§ 371 (c)(1),
(2) Date: **Feb. 27, 2023**

(30) **Foreign Application Priority Data**

Aug. 31, 2020 (JP) 2020-146006

Publication Classification

(51) **Int. Cl.**
H05K 3/10 (2006.01)
H05B 3/84 (2006.01)

(52) **U.S. Cl.**
CPC ***H05K 3/10*** (2013.01); ***H05B 3/84*** (2013.01)

(57) **ABSTRACT**

A transparent-heater designing method by an information processing device for a transparent heater comprising a transparent base material and a heater unit, the heater unit comprising a conductive pattern formed on a surface of or inside the transparent base material, the transparent-heater designing method comprising a designing step of estimating, by the information processing device, designing information DI based on a transmissivity T and a heat generation capacity C as targets of the transparent heater, the designing information DI comprising information related to thickness of a conductive thin line comprised in the conductive pattern and information related to a pattern shape PAT of the conductive pattern.