

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD.,
Petitioner,

v.

DANIEL L. FLAMM,
Patent Owner.

Case IPR2016-01510
Patent RE40,264 E

Before MICHAEL R. ZECHER, CHRISTOPHER L. CRUMBLEY, and
JO-ANNE M. KOKOSKI, *Administrative Patent Judges*.

ZECHER, *Administrative Patent Judge*.

DECISION
Denying Petitioner's Request for Rehearing
37 C.F.R. § 42.71(d)

I. INTRODUCTION

Petitioner, Samsung Electronics Co., Ltd. (“Samsung”), timely filed a Request for Rehearing under 37 C.F.R. § 42.71(d). Paper 7 (“Req. Reh’g”). Samsung’s Request for Rehearing seeks reconsideration of the Decision Denying Institution of *inter partes* review of claims 13–26, 64, and 65 of U.S. Patent No. RE40,264 E (Ex. 1001, “the ’264 patent”). Paper 6 (“Dec.”).

In its Request for Rehearing, Samsung contends that our determination not to institute an *inter partes* review is improper for at least two reasons. First, Samsung argues that we misapprehended or overlooked that Incropera’s equation 5.6 may be used to select thermal mass. Req. Reh’g 2–4. Second, Samsung argues that we misapprehended or overlooked that it relied upon the combined teachings of Incropera and Okada I to account for “the thermal mass of the substrate holder is selected for a predetermined temperature change within a specific interval of time during processing,” as recited in independent claim 13. *Id.* at 4–6.

As we explain below, we have considered the arguments presented by Samsung in its Request for Rehearing, but we discern no reason to modify the Decision Denying Institution. As a consequence, we *deny* Samsung’s Request for Rehearing.

II. STANDARD OF REVIEW

A party requesting rehearing bears the burden of showing that the decision should be modified. 37 C.F.R. § 42.71(d). The party must identify specifically all matters we misapprehended or overlooked, and the place where each matter was addressed previously in a motion, an opposition, or a

reply. *Id.* When rehearing a decision on a petition, we review the decision for an abuse of discretion. 37 C.F.R. § 42.71(c). An abuse of discretion may be indicated if a decision is based on an erroneous interpretation of law, if a factual finding is not supported by substantial evidence, or if the decision represents an unreasonable judgment in weighing relevant factors. *Star Fruits S.N.C. v. United States*, 393 F.3d 1277, 1281 (Fed. Cir. 2005); *Arnold P'ship v. Dudas*, 362 F.3d 1338, 1340 (Fed. Cir. 2004); *In re Gartside*, 203 F.3d 1305, 1315–16 (Fed. Cir. 2000). With this in mind, we address the arguments presented by Samsung in turn.

III. ANALYSIS

A. *We Did Not Misapprehend or Overlook the Purported Implications of Incropera's Equation 5.6*

Samsung contends that, in the Decision Denying Institution, we misapprehended or overlooked that Incropera's equation 5.6 may be used to “select” thermal mass by filling in the temperature and time values in this equation. Req. Reh'g 3 (citing Paper 1 (“Pet.”), 28; Ex. 1002 (Declaration of Dr. Stanley Shanfield) ¶ 62). According to Samsung, Incropera does not stand simply for the proposition that the thermal mass affects a change in temperature, but rather one of ordinary skill in the art would have understood that, for a certain desired temperature and time change, the precise thermal mass would have been selected using Incropera's equation 5.6. *Id.* (citing Pet. 30, Ex. 1002 ¶ 62).

Contrary to Samsung's assertion, Incropera does not state explicitly that equation 5.6 may be used to select thermal mass. Instead, Incropera merely states that “[e]quation 5.6 may be used to compute the temperature

reached by the solid at some time t .” Ex. 1007, 228.¹ To support its assertion that one of ordinary skill in the art would have understood that, for a certain desired temperature and time change, the precise thermal mass would have been selected using Incropera’s equation 5.6, we recognize that Samsung directs us to the testimony of its declarant, Dr. Shanfield. Ex. 1002 ¶ 62. This cited testimony from Dr. Shanfield, however, merely explains how the selection of thermal mass that purportedly results from the use of equation 5.6 applies to objects generally—not a *substrate holder* specifically. Indeed, Samsung acknowledges in its Request for Rehearing that Incropera does not disclose the “selection of thermal mass for a *substrate holder*.” Req. Reh’g 4. We, therefore, do not agree with Samsung’s argument that we misapprehended or overlooked whether a person of ordinary skill in the art would have used Incropera’s equation 5.6 to select thermal mass and, in particular, to select the thermal mass of a substrate holder.

B. We Did Not Misapprehend or Overlook Samsung’s Reliance on the Combined Teachings of Okada I and Incropera

Samsung contends that, in the Decision Denying Institution, we misapprehended or overlooked its reliance on the combined teachings of Okada I and Incropera to account for “the thermal mass of the substrate holder is selected for a predetermined temperature change within a specific interval of time during processing,” as recited in independent claim 13. Req. Reh’g 4. Samsung argues that, although Incropera does not disclose the selection of thermal mass for a substrate holder, it is the application of

¹ All references to the page numbers in Incropera are to the original page numbers in either the top left-hand or top right-hand corner of each page in Exhibit 1007.

Incropera's equation 5.6 to Okada I's disclosure of changing the temperature of electrode 25 from temperature A (e.g., -50°C) to temperature B (e.g., -30°C) in a time period between two and ten seconds, that purportedly teaches the aforementioned limitation. *Id.* (citing Pet. 26–27 (citing Ex. 1006 ¶¶ 16, 18, 19)). According to Samsung, given these parameters disclosed in Okada I, as well as one of ordinary skill in the art's knowledge of Incropera's equation 5.6, it would have been obvious to an ordinarily skilled artisan to set parameters (e.g., $T_i = -50^{\circ}\text{C}$; $T = -30^{\circ}\text{C}$; $t =$ two to ten seconds) in Incropera's equation 5.6 to select the thermal mass needed for a predetermined temperature change (e.g., 20°C) over a specific interval of time (e.g., two to ten seconds). *Id.* at 4–5 (citing Pet. 32; Ex. 1002 ¶ 66).

Samsung's argument in this regard still suffers from the same deficiency we identify above. That is, even if we were to accept that Samsung's declarant, Dr. Shanfield, demonstrates that Incropera's equation 5.6 may be used to select thermal mass, he does not explain how such a selection implicates selecting the thermal mass of a *substrate holder*. To support its assertion that the combined teachings of Okada I and Samsung account for selecting the thermal mass of a substrate holder, we recognize that Samsung, once again, directs us to the testimony of Dr. Shanfield. Ex. 1002 ¶ 66. This cited testimony for Dr. Shanfield merely demonstrates that certain elements required by independent claim 13 were known independently in the prior art by explaining that, upon identifying certain parameters (i.e., Okada I's temperature A, temperature B, and time period between two and ten seconds), the identified parameters may be used in Incropera's equation 5.6 in order to achieve the end result of selecting the thermal mass of Okada I's electrode 25. *See id.* The U.S. Supreme Court,

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