

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NICHIA CORPORATION,
OSRAM OPTO SEMICONDUCTORS, INC.,
Petitioner,

v.

LIGHTING SCIENCE GROUP CORP.,
Patent Owner.

IPR2019-01488
Patent 7,095,053 B2

Before KEVIN F. TURNER, PATRICK M. BOUCHER, and
JOHN A. HUDALLA, *Administrative Patent Judges*.

HUDALLA, *Administrative Patent Judge*.

DECISION

Denying Institution of *Inter Partes* Review
35 U.S.C. § 314
Denying Motion for Joinder
35 U.S.C. § 315(c); 37 C.F.R. § 42.122

Nichia Corporation and OSRAM Opto Semiconductors, Inc.
(collectively, “Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting an
inter partes review of claims 1–9, 11–20, 22–24, and 26–30 of U.S. Patent
No. 7,095,053 B2 (Ex. 1001, “the ’053 patent”). Petitioner filed

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Declarations of Phillip Wright, Ph.D. (Exs. 1003, 1025) with its Petition. Patent Owner, Contemporary Display LLC (“Patent Owner”), filed a Preliminary Response (Paper 15, “Prelim. Resp.”). Petitioner also filed a motion to join this case with IPR2019-01261.¹ Paper 5.

We have authority to determine whether to institute an *inter partes* review. *See* 35 U.S.C. § 314(b); 37 C.F.R. § 42.4(a). Under 35 U.S.C. § 314(a), we may not authorize an *inter partes* review unless the information in the petition and the preliminary response “shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” For the reasons that follow, we do not institute an *inter partes* review.

I. BACKGROUND

A. *Real-Parties-in-Interest*

Petitioner identifies Nichia Corporation, Nichia America Corporation, OSRAM GmbH, OSRAM Licht AG, OSRAM Opto Semiconductors GmbH, and OSRAM Opto Semiconductors, Inc. as real-parties-in-interest. Pet. 1. Patent Owner identifies Lighting Science Group Corporation as the real-party-in-interest. Paper 7, 1.

B. *Related Proceedings*

The parties identify the following proceedings related to the ’053 patent (Pet. 1–2; Paper 7, 1–3):

Lighting Sci. Grp. Corp. v. Acuity Brands, Inc., No. 1:19-cv-00805 (D. Del. filed May 1, 2019);

¹ Based on our disposition below, Petitioner’s motion for joinder is *denied*.

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Lighting Sci. Grp. Corp. v. Gen. Elec. Co., No. 1:19-cv-00806 (D. Del. filed May 1, 2019);

Lighting Sci. Grp. Corp. v. Signify N.V., No. 1:19-cv-00807 (D. Del. filed May 1, 2019);

Lighting Sci. Grp. Corp. v. Eaton Corp., No. 1:19-cv-00808 (D. Del. filed May 1, 2019);

Lighting Sci. Grp. Corp. v. Lumileds Holdings BV, No. 1:19-cv-00809 (D. Del. filed May 1, 2019);

Lighting Sci. Grp. Corp. v. OSRAM GmbH, No. 1:19-cv-00797 (D. Del. filed Apr. 30, 2019);

Lighting Sci. Grp. Corp. v. MLS Co., No. 1:19-cv-00798 (D. Del. filed Apr. 30, 2019);

Lighting Sci. Grp. Corp. v. Nichia Corp., No. 1:19-cv-01948 (N.D. Ga. filed Apr. 30, 2019);

Lighting Sci. Grp. Corp. v. Cree Inc., No. 1:19-cv-00632 (E.D. Wis. filed Apr. 30, 2019); and

Certain Light Emitting Diode Products, Systems, and Components Thereof (I), U.S. Int'l Trade Comm'n Inv. No. 337-TA-1163 (instituted June 20, 2019).

We identified the following additional proceedings related to the '053 patent:

Gen. Elec. Co. v. Lighting Sci. Grp. Corp., No. 1:19-cv-05365 (S.D.N.Y. filed June 7, 2019);

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Certain Light Emitting Diode Products, Systems, and Components Thereof (II), U.S. Int’l Trade Comm’n Inv. No. 337-TA-1164 (instituted June 20, 2019); and

Certain Light Emitting Diode Products, Systems, and Components Thereof (III), U.S. Int’l Trade Comm’n Inv. No. 337-TA-1168 (instituted June 20, 2019).

In addition, Petitioner has filed another petition for *inter partes* review of the ’053 patent in IPR2019-01261. Paper 5, 1. Petitioner seeks joinder of this case to IPR2019-01261. *Id.* at 1–2. Petitioner also has filed petitions for *inter partes* review against other patents owned by Patent Owner in IPR2019-01259, IPR2019-01260, and IPR2019-01487. Paper 7, 1.

C. *The ’053 patent*

The ’053 patent relates to light emitting diodes (LEDs) packaged for high temperature operation. Ex. 1001, 1:15–17. The ’053 patent states that then-existing plastic LED packages had operational temperature limitations, and that there was “a need for an improved light emitting diode packaged for high temperature operation.” *Id.* at 1:32–37. The ’053 patent proposes an LED package made using the low temperature co-fired ceramic on metal technique (LTCC-M). *Id.* at 1:54–57. Among other considerations for using the LTCC-M technique, the ’053 patent notes that the ceramic layers of the LTCC-M structure must be matched to the thermal coefficient of expansion of a metal support board. *Id.* at 7:25–27.

Figure 6 of the ’053 patent is reproduced below.

FIG. 6

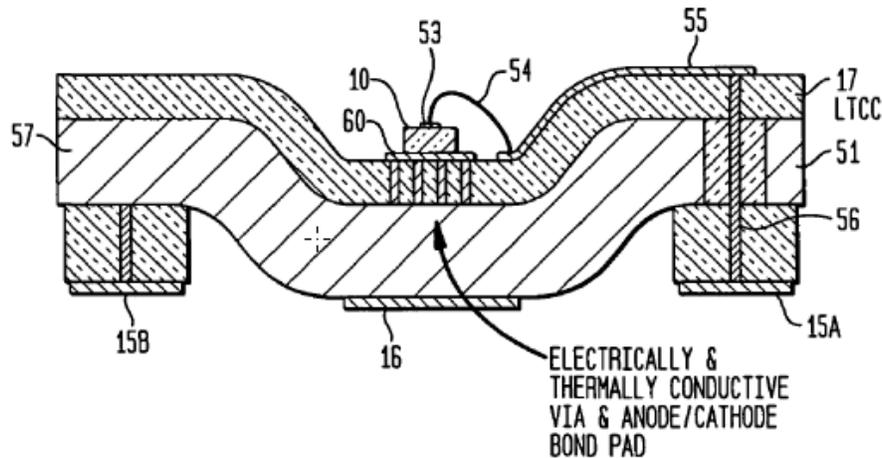


Figure 6 depicts a cross-section of an LED packaged for high temperature operation. *Id.* at 1:66–67, 2:5–8, 4:1–2, 4:20. LED 10 is mounted on ceramic layer 17, which conforms to coined metal base 51 and acts as a light reflector. *Id.* at 4:21–54. Top electrode 53 of LED 10 can be connected by bonding wire 54 to top bonding pad 55 on ceramic 17 and through via section 56 to bonding pad 15A underlying metal base 51. *Id.* at 4:7–11. The bottom electrode of LED 10 can be connected to metal base 51 by way of bonding pad 60 and electrically and thermally conductive vias through ceramic 17 to metal base 51. *Id.* at 4:24–28. Underlying bonding pads 15A, 15B are coplanar with thermal base connector 16 to allow a surface-mount connection onto a PC board. *Id.* at 4:14–19.

D. *Illustrative Claim*

Of the challenged claims, claims 1, 7, 16, and 22 are independent. Claims 2–6 depend from claim 1; claims 8, 9, and 11–15 depend directly or indirectly from claim 7; claims 17–20 depend from claim 16; and claims 23,

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