

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

AVX CORPORATION,
Petitioner,

v.

SAMSUNG ELECTRO-MECHANICS CO., LTD.,
Patent Owner.

Case PGR2017-00010
Patent 9,326,381 B2

Before SALLY C. MEDLEY, JONI Y. CHANG, and
TRENTON A. WARD, *Administrative Patent Judges*.

MEDLEY, *Administrative Patent Judge*.

DECISION
Granting Institution of Post-Grant Review
37 C.F.R. § 42.208

I. INTRODUCTION

AVX Corporation (“Petitioner”) filed a Petition for post-grant review of claims 1–19 of U.S. Patent No. 9,326,381 B2 (Ex. 1001, “the ’381 patent”). Paper 2 (“Pet.”). Samsung Electro-Mechanics Co., Ltd. (“Patent Owner”) filed a Preliminary Response. Paper 6 (“Prelim. Resp.”).

Under 35 U.S.C. § 324, a post-grant review may not be instituted “unless . . . the information presented in the petition . . . would demonstrate that it is more likely than not that at least 1 of the claims challenged in the petition is unpatentable.” Upon consideration of the Petition and Preliminary Response, we determine that the information presented in the Petition demonstrates that it is more likely than not that Petitioner would prevail in showing that claims 1–4, 6–11, and 13–19 of the ’381 patent are unpatentable.

A. Related Matters

The parties state that there is no matter that would affect, or be affected by, a decision in this proceeding. Pet. 1; Paper 4, 1.

B. The ’381 Patent

The ’381 patent is directed to a multilayer ceramic capacitor and a board having a multi-layer ceramic capacitor mounted thereon. Ex. 1001, 1:15–16. Figures 1 and 4 of the ’381 patent are reproduced below.

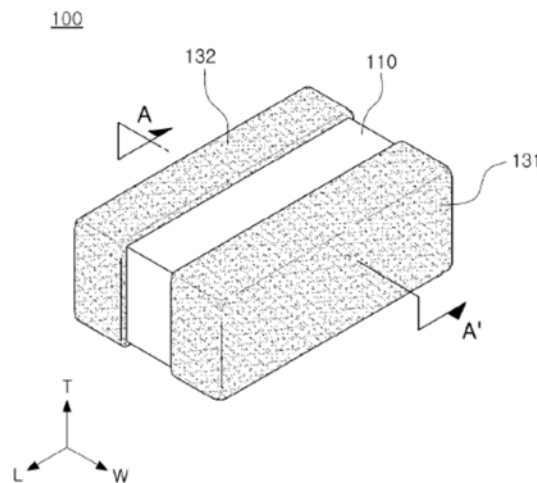


Figure 1 shows a multilayer ceramic capacitor.

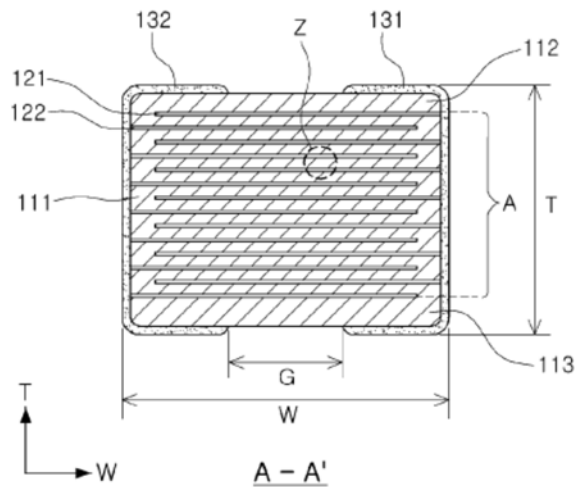


FIG. 4

Figure 4 is a cross-sectional view taken along line A-A' of Figure 1.

The capacitor depicted in the figures includes active layer A which is formed by repeatedly stacking a plurality of first and second internal electrodes 121 and 122, having at least one of dielectric layers 111 interposed therebetween. *Id.* at 6:9–18. First and second external electrodes 131 and 132 are formed on the first and second side surfaces 5 and 6 of the ceramic body 110. *Id.* at 6:5–7. Acoustic noise may be reduced by controlling (1) the thickness T and the width W of ceramic body 110 to satisfy $0.75W \leq T \leq 1.25W$, (2) the gap G between the first and second external electrodes 131 and 132 to satisfy $30 \mu\text{m} \leq G \leq 0.9W$, and (3) the average grain size of the dielectric grains 111a present in the single dielectric layer in the thickness direction thereof to be 2 or greater. *Id.* at 6:24–26, 6:34–36, 7:17–19, Fig. 5.

C. Illustrative Claim

Petitioner challenges claims 1–19 of the '381 patent. Claims 1 and 8 are independent claims. Independent claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A multilayer ceramic capacitor, comprising:

a ceramic body including dielectric layers and having first and second main surfaces opposing each other, first and second side surfaces opposing each other, and first and second end surfaces opposing each other;

an active layer including a plurality of first and second internal electrodes disposed to face each other with at least one of the dielectric layers interposed therebetween and alternatively exposed to the first or second side surface;

upper and lower cover layers disposed on and below the active layer, respectively; and

a first external electrode disposed on the first side surface of the ceramic body and electrically connected to the first internal electrodes and a second external electrode disposed on the second side surface and electrically connected to the second internal electrodes;

wherein when a thickness of the ceramic body is defined as T and a width thereof is defined as W , $0.75W \leq T \leq 1.25W$ is satisfied,

when a gap between the first and second external electrodes is defined as G , $30 \mu\text{m} \leq G \leq 0.9W$ is satisfied, and

an average number of dielectric grains in a single dielectric layer in a thickness direction thereof is 2 or greater.

Id. at 13:36–59.

Independent claim 8 is similar to claim 1, except claim 8 recites a multilayer ceramic capacitor mounted on a printed circuit board. *Id.* at 14:18–50.

D. Asserted Grounds of Unpatentability

Petitioner asserts that claims 1–19 are unpatentable based on the following grounds (Pet. 5):

Reference(s)	Basis	Challenged Claim(s)
Itamura, ¹ Jeong, ² and Rutt ³	§ 103	1–7
Itamura, Jeong, Rutt, and Ahn ⁴	§ 103	8–15 and 17–19
Itamura, Jeong, Rutt, Ahn, and EIA Standard	§ 103	16
Group 39 Capacitors ⁵	§ 102(a)(1)	1–3 and 5–7
Group 39 Capacitors and Ahn	§ 103	8–15 and 17–19
Group 39 Capacitors, Itamura, and AVX Catalog	§ 103	4
Group 39 Capacitors and Jeong	§ 103	5
Group 39 Capacitors, Ahn, and Jeong	§ 103	12
Group 39 Capacitors, Ahn, and EIA Standard	§ 103	16

II. DISCUSSION

A. Eligibility for Post-Grant Review

The post-grant review provisions of the Leahy-Smith America Invents Act (“AIA”) apply only to patents subject to the first inventor to file provisions of the AIA. AIA § 6(f)(2)(A). Specifically, the first inventor to

¹ U.S. Patent No. 7,808,770 B2, issued Oct. 5, 2010 (Ex. 1004) (“Itamura”).

² U.S. Patent Publication No. 2011/0141655, published June 16, 2011 (Ex. 1005) (“Jeong”).

³ U.S. Patent No. 5,134,540, issued July 28, 1992 (Ex. 1006) (“Rutt”).

⁴ U.S. Patent Application Publication No. 2012/0152604 A1, filed December 20, 2011, published June 21, 2012 (Ex. 1007) (“Ahn”).

⁵ The Group 39 Capacitors is described as a set of multilayer ceramic capacitors purchased on eBay by Petitioner’s witness, Mr. John Galvagni on December 20, 2016. Pet. 3.

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